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THE LARGEST U.S. INDUSTRIAL CORPORATIONS

SPECIAL REPORT

TEN YEARS THAT SHOOK THE FORTUNE 500

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The Economy

FORTUNE
500

For the cover, Nicholas Fasciano crafted a brass relief in the style of an engineer's ruler to symbolize the precision of the FORTUNE 500 rankings. Roberto Brosan made the photograph. A special report on the 500 begins on page 223.

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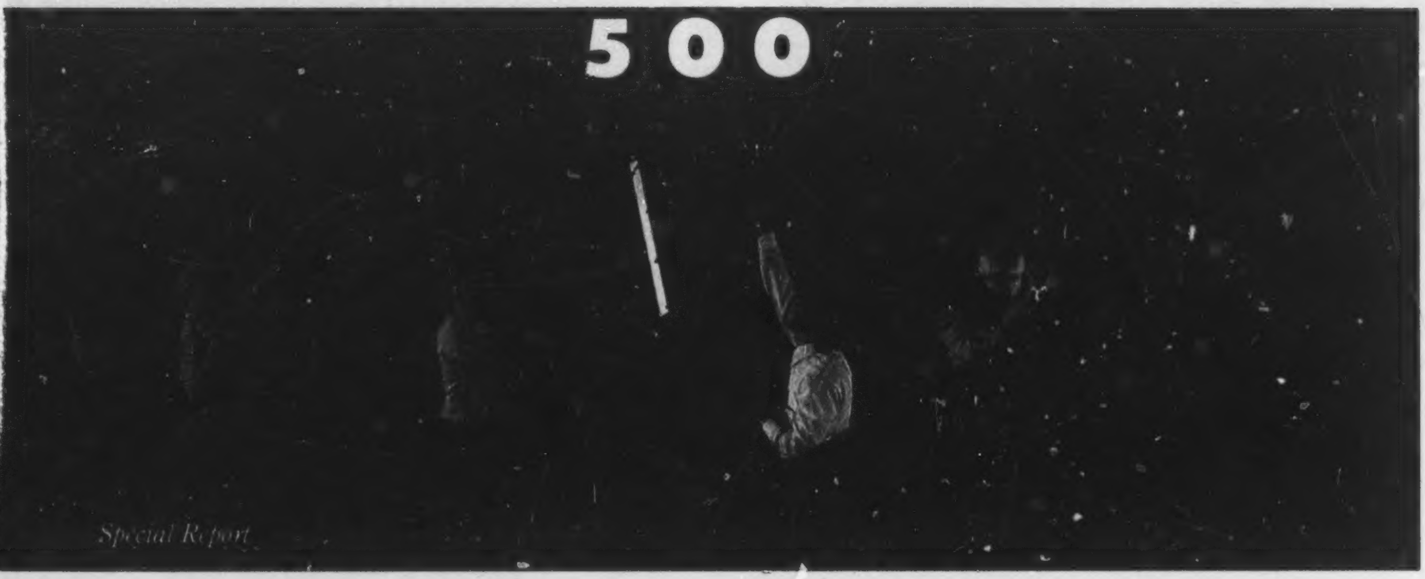

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THE MILITARY BOOST TO INDUSTRY

As industrial policy, defense spending is inefficient. But it will still provide timely financial and technical help to companies struggling to become more competitive. ■ *by Bruce Steinberg*

THE LONGEST military buildup in U.S. history is in its eighth year, and it is generating awesome numbers. The Reagan Administration proposes to spend $930 billion on defense over the next three years, up from $635 billion in the preceding three. Even a Democratic budget, with an inflation-adjusted growth rate of 3½%, would amount to $870 billion over the period. And Congress's General Accounting Office thinks the Reagan budget numbers are an understatement. If history is any guide, it says, the Pentagon programs could cost $90 billion to $170 billion more than they're budgeted for during the three-year period.

Defense spending softened the impact of both the 1980 and 1982 recessions, providing 21% of the growth in GNP between late 1979 and the end of 1983. But it won't contribute much to overheating during the expansion. Though the scale of the buildup is unparalleled outside of wartime, it will strain capacity only in a few industries. No mobilization surge will overwhelm production across the board.

Nonetheless the spending is bringing important changes to U.S. industry. As MIT economist Lester C. Thurow observes, "The Department of Defense conducts an industrial policy, though it is a very narrowly focused one." Over the years, it has helped strengthen the industries that are the U.S.'s most potent international competitors, including aerospace, computers, scientific instruments, and communications equipment.

Military-industrial policy is not particularly efficient. Soldiers aside, defense spending will create around 1.2 million new jobs between now and 1987. But economists calculate that the same investment in the civilian economy could produce roughly 25% more jobs. And nobody needs an Aquila spy drone to locate the military's presence in a federal budget glowing deeply in the infrared. Financed by personal taxes, that $930 billion will take a toll of private consumption. Financed by government borrowing, it will crowd out private investment and invite inflation.

RESEARCH ASSOCIATE *John Paul Newport Jr.*

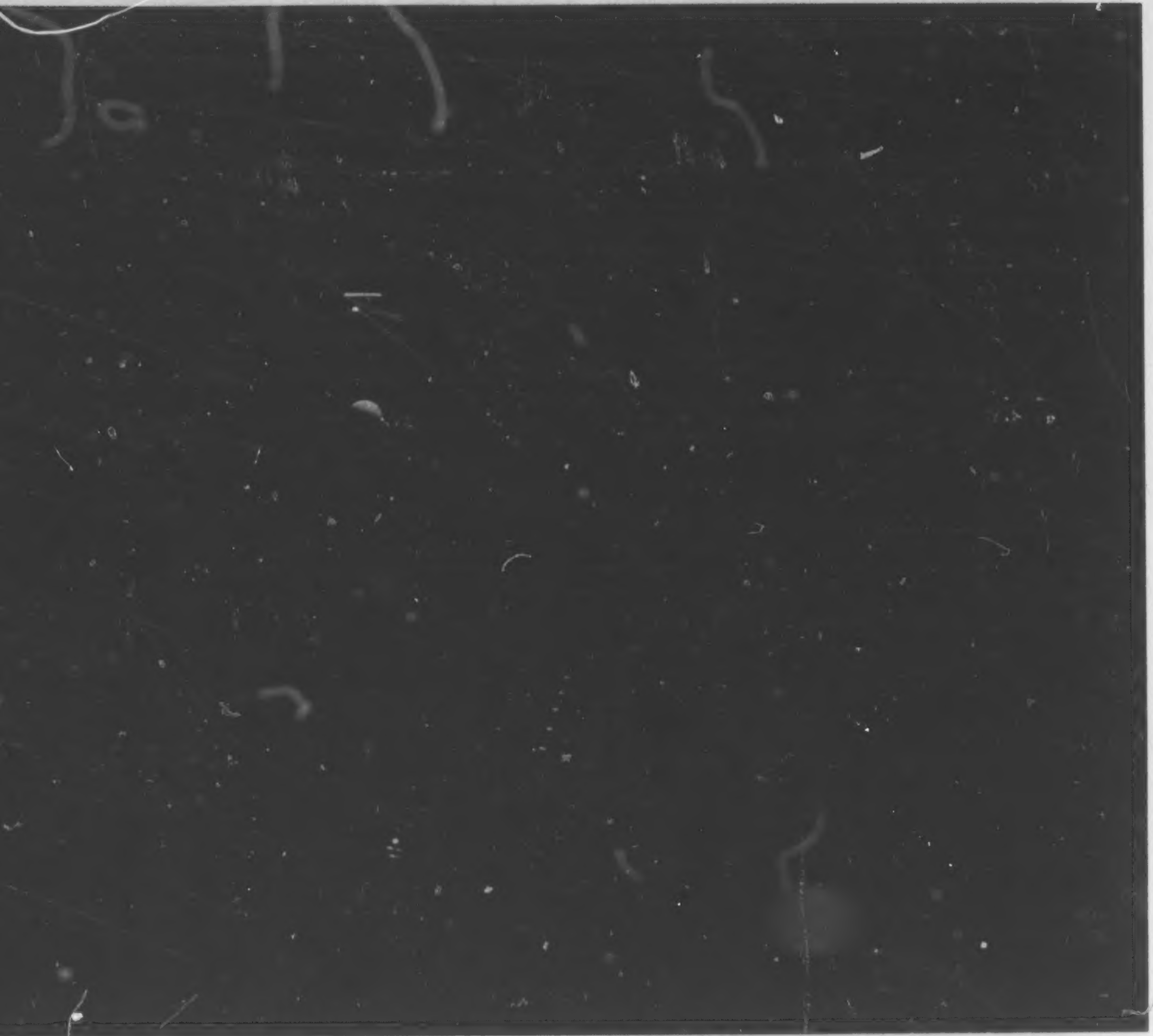
But the buildup will provide timely financial and technical stimulus to many companies in the durable goods industries—aerospace and communications equipment companies and machine tool makers in particular. That's because the fastest-rising part of the budget is procurement—$64 billion this year, $107 billion in 1987. Most of that goes for weapons.

Durable goods manufacturers suffered badly after procurement for the Vietnam war wound down. Defense purchases of hard goods peaked in 1967, when they accounted for 13.5% of production, and fell to around 5.5% in 1973. They didn't get much higher for the remainder of the decade. The dropoff probably played a role in the sluggish performance of basic industry during the 1970s. "When that much of an industry is going down the tubes, it's got to have a disruptive effect," says George F. Brown Jr., group vice president of Data Resources Inc. (DRI), an economic forecasting concern.

Now military spending on durable goods is soaring, and within a few more years it should be claiming 13% of durable goods output, almost equal to its share during the Vietnam era. According to DRI, defense purchases will account for nearly half of the growth in the aerospace industry and 20% of the growth in electronics through 1987. The slow-growing primary and fabricated metals industries can expect a major boost, with nearly 20% of their new demand coming from defense. And "orders from defense contractors are the most active part of the machine tool business," observes Clifford R. Meyer, president of Cincinnati Milacron, the largest U.S. machine tool maker.

Unmanned, *Lockheed's Aquila battle drone can*

PHOTOGRAPH BY ARTHUR MEYERSON

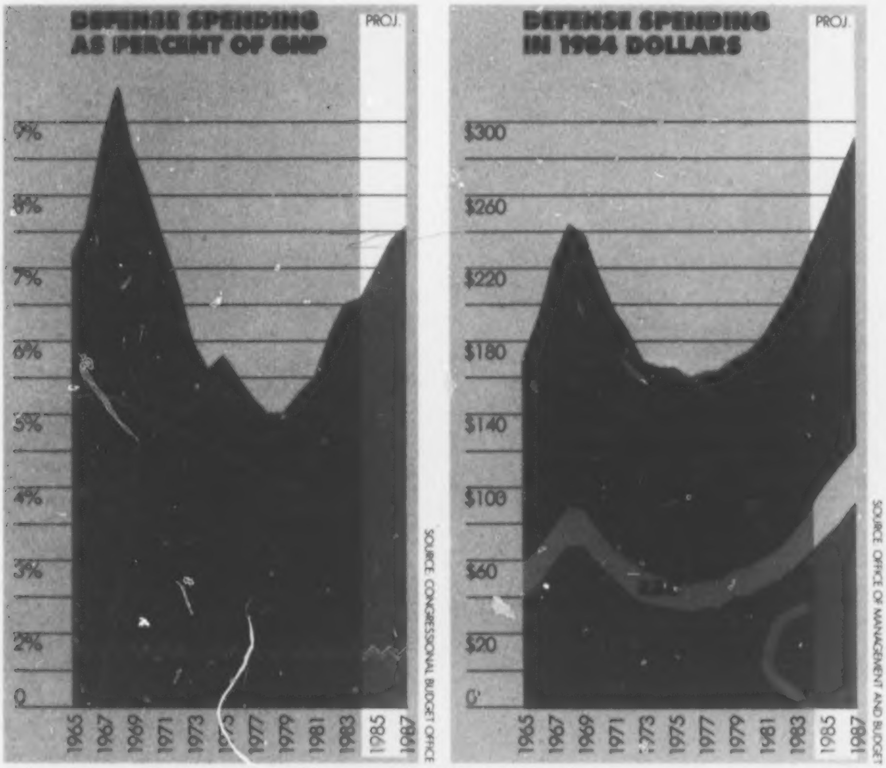


monitor hostile territory with TV and infrared sensors and direct missiles to enemy formations with lasers.

The buildup is not likely to disrupt many industries. Some producers of specialized items for aerospace will come under pressure if commercial demand revives—among them makers of titanium and aluminum castings and forgings, and producers of materials such as titanium sponge. But these are bit players in the economy.

The electronics industry looks as if it ought to be a trouble spot, since it's operating at over 90% of capacity. But most of the demand created by the defense budget is for such communications equipment as electronic warfare devices and radar, sonar, reconnaissance, and surveillance systems. For the next few years demand for those goods is likely to outstrip the industry's ability to add capacity. But the higher prices that result will apply mainly to the military; there's little overlap between civilian communications requirements and the highly specialized military items, except for weather forecasting systems and civilian radar.

In the semiconductor and computer industries, defense needs are indeed clashing with zooming civilian demand. Semiconductors are desperately pinched at the moment, with orders running 50% above sales. But the disruptions will probably neither impede the sales of semiconductors or computers nor drive prices up. In the short run, foreign competitors will eagerly seize the opportunity to gain market share. Japanese shipments of semiconductors to the U.S. nearly doubled in 1983, for example, and should double again this year to more than $1 billion. And the capacity problems are unlikely to persist. Chipmakers are rushing to add new plants, and most gloomily anticipate a slump as early



The Road to Spending, Sixties-Style

Defense spending as a percent of gross national product fell to its lowest point since 1950 during the 1970s. Under the Administration's proposed budget, it will be back up to 7.6% by 1987, still well below its share in the Vietnam era. But weapons procurement, the fastest-growing part of the budget, will be up 61% from 1983—a third higher than at the height of the Vietnam buildup.

	TOP TEN DEFENSE CONTRACTORS	FISCAL 1983 DEFENSE CONTRACTS (millions)	1983 TOTAL SALES (millions)	FORTUNE 500 RANK
1	General Dynamics	$6,818	$7,146	46
2	McDonnell Douglas	$6,143	$8,111	42
3	Rockwell International	$4,545	$8,098*	43
4	General Electric	$4,518	$26,797	10
5	Boeing	$4,423	$11,129	27
6	Lockheed	$4,006	$6,490	50
7	United Technologies	$3,867	$14,669	18
8	Tenneco	$3,762	$14,353	19
9	Howard Hughes Medical Institute	$3,240	$4,938	—
10	Raytheon	$2,728	$5,937	59

*Fiscal year-end September 30

The Big Guns of Defense Contracting

The military buys the lion's share of its hardware from the aerospace, electronics, and shipbuilding industries. Some of the fiscal 1983 contracts are multiyear programs, but in general the contracts mirror the relationship of military sales to the total sales of the companies listed.

as 1986 (see "The Coming Glut of Semiconductors," FORTUNE, March 19).

For the aerospace industry and most of its suppliers, the military buildup is nothing but good news. The industry is running at 73% of capacity in a depressed world market for commercial aircraft. Most aerospace companies can be regarded as Pentagon dependents—of the major ones, only Boeing gets less than half its revenues from the military. Defense spending will help push capacity utilization toward its 1979 peak of 89% by 1987.

Aerospace stands to benefit in a major way from a sorely needed upgrading of manufacturing operations spurred by military spending. Though advanced aircraft are among the most complex of high-tech products, they have mainly been built with low-tech craft methods by highly paid machinists. The results: railroad-era productivity and huge piles of work-in-process inventory. But the industry has been too strapped for cash to invest in new manufacturing technologies such as sophisticated flexible manufacturing systems (FMSs) that promise to bring the cost benefits of mass production to the smallest runs (see "The Race to the Automatic Factory," FORTUNE, February 21, 1983). The Pentagon is stepping in with programs to modernize its suppliers' production.

The oldest and most effective of these is the Manufacturing Technology program, which gets a lot of leverage out of a relatively small budget ($200 million this year). Man Tech, as it is called, has racked up impressive accomplishments over the years. Numerically controlled machine tools, a quantum leap in machine tool technology, came out of Man Tech in the 1950s. More recently the program has midwifed such techniques as laser welding—Avco Lycoming is using it to save $500 on each engine it builds for the M-1 tank—and photogrammetry, an optical system for checking the precision of machine cuts, which Rockwell is adopting for its work on the B-1 bomber.

Following up on $7 million in Pentagon seed money, Westinghouse Electric has plowed $55 million into developing robotic assembly systems and building a highly automated new factory in College Station, Texas, where it expects to save itself and the government $400 million over the next seven years making radar systems for the F-16 fighter and other military planes. Man Tech is also pushing development of software that will tie computer-aided design and computer-aided manufacturing into integrated, factorywide systems. "The defense industry is on the leading edge of technology here," says Cincinnati Milacron's Meyer.

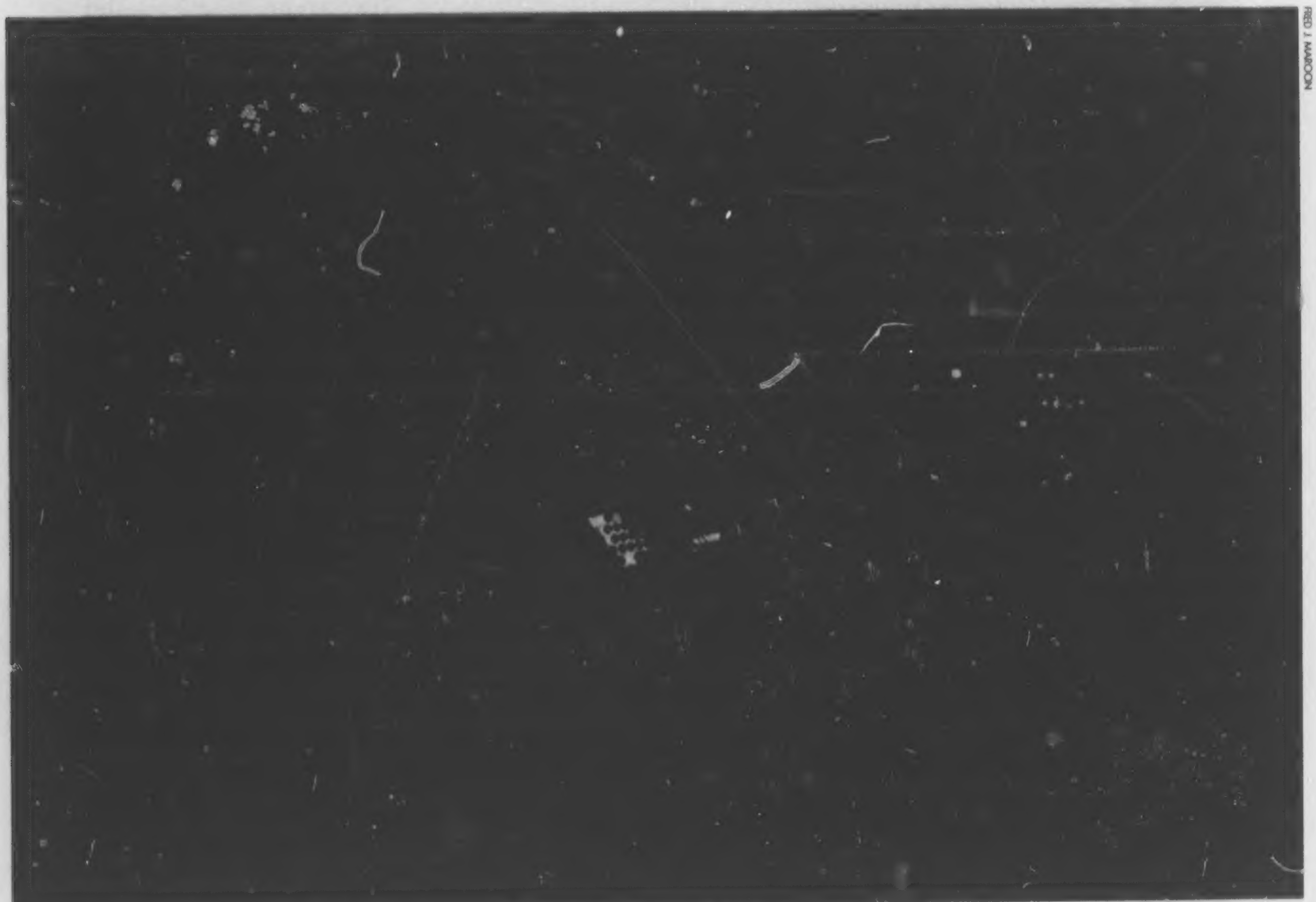
To get new developments onto the factory floor, the program sponsors demonstration projects, paying defense contractors to produce trial batches of parts using risky but promising technologies. If they work, the manufacturer has the option of buying full-scale versions and putting them into production. For proven technologies, another program called the Industrial Modernization Incentive Program works with Man Tech. A manufacturer who buys highly advanced machinery gets to keep some of the savings—how much depends on the amount invested and what the Defense Department would have paid for the work if older machines had been used.

LTV's Vought Aero Products division last year spent $10.1 million for a flexible manufacturing system to machine parts of the B-1 bomber fuselage, which it is building as a subcontractor to Rockwell. The machines start up in July, and Vought expects them to save $21 million over a production run of 82 planes. Under the cost-incentive plan, Vought will get half the savings, the balance will be split between Rockwell and the Air Force, and Vought will continue to get the machine's benefits long after the last B-1 rolls off the line.

"The biggest thing with the FMS is that we're moving from batch to serial production," notes Gerald E. Ennis, director of industrial modernization at Vought. In batch production, components are produced in small lots and sit around as work-in-process awaiting the next manufacturing step. In serial production an entire set of components can be produced in one run—in Vought's case that comes to 541 separate parts—while the system schedules itself, thanks to sophisticated software. Vought estimates that idle machine time will be slashed 95%. Work-in-process will be cut sharply, with major savings in inventory costs. And labor productivity will triple. The Vought installation is a vital showcase for the new technology, attracting swarms of executives from other aerospace companies to Dallas. Boeing is considering buying a similar system soon.

Out beyond programs like Man Tech, the Pentagon finances a prodigious amount of research and development work. Military R&D spending—$29.3 billion this year—accounts for nearly one-third of total U.S. R&D, up from a quarter four years ago. It's not correct to regard the Pentagon as a vast Bell Labs, since 90% of that money goes to develop and test military projects that mostly have no potential benefit in the civilian world. Even so, most commercial advances in aviation, from aircraft and engine design to materials and avionics, owe their origins to military research. A good chunk of the $3 billion spent on research this year will go into electronics and aerospace. In these areas, boasts Edith W. Martin, Deputy Under Secretary of Defense for Research and Advanced Technology, "Defense research presses the limits of science and technology."

THE PENTAGON'S highest-priority technology is a program called VHSIC (very high speed integrated circuits), an attempt to leapfrog semiconductor technology and develop devices that can process information 100 times faster than present chips. Such chips are a crucial element in "smart" weapons that need to react instantly to information that sensors feed them about their surroundings.


FRED J. MAROON

Electronics gear, *like this seagoing fire-control system, accounts for a growing share of military spending.*

THE KREMLIN'S ELUSIVE BUDGET

■ Last fall the CIA announced that Russian military spending had been growing at 2% per year since 1976, rather than the 4% to 5% originally calculated. That ought to have rearmed the critics of the military budget, which the Reagan Administration links to the putative Soviet growth rate, but after a brief flurry of headlines the matter faded from public view. What happened?

No one outside the Kremlin knows for sure how much the Russians spend. The CIA judges Soviet expenditures by calculating the cost of producing equivalent goods and services in the U.S. One problem with that is that every time U.S. troops get a pay raise, the Soviet military effort shows an increase. As a sort of cross-check, the CIA calculates the ruble cost of the U.S. defense effort. But nobody can put a price tag on high-technology weaponry the Russians can't build at all.

The CIA won't say why it changed its mind. Its cousin, the Defense Intelligence Agency, estimates Soviet expenditures using classified methodology (it admits to a 30% margin of error). The DIA does not see any sign of a slowdown in the number of rubles the Russians are spending.

However obscure its cost, Soviet hardware itself is highly visible, thanks to spy technology. And on that score, there's no disagreement: though the rate of Russian weapons acquisition has slowed in recent years, the arsenal is huge and growing.

Phase I of VHSIC involves nine companies, among them Texas Instruments, Hughes Aircraft, and TRW. They have succeeded in producing the most compact chips around, with circuits only 1¼ microns (50-millionths of an inch) wide. That makes them quicker, expanding their range of application. "We've gotten a lot of leverage out of VHSIC, since it stimulated activity among non-program participants," says E. D. Maynard Jr., the program director. "The major military suppliers feel they need to develop this technology to remain competitive." The Pentagon intends to make the chip design available to all security-cleared comers.

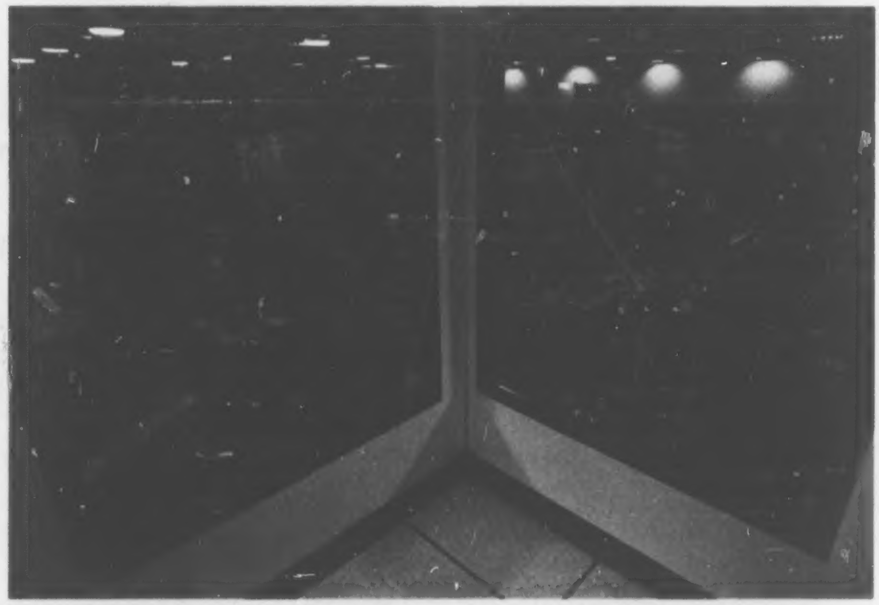
VHSIC chips also could have important commercial applications. Systems operating in "real time," where not everything is predictable and programmable in advance, generally require sensor technology. According to Larry W. Sumney, Maynard's predecessor at VHSIC and now executive director of the Semiconductor Research Corp., an industry research cooperative, "The possibilities are endless." The technology that guides a weapon to a target can be used to guide a robot in a factory, and detecting submarines with sonar is similar to detecting earth noises in seismic monitoring.

PHASE II of the VHSIC program is aimed at getting chips with circuitry only a half-micron wide, too tiny for conventional semiconductor manufacturing equipment to print. With $4 million of defense money along with $6 million of its own, Perkin-Elmer Corp. has developed a "direct write electron beam" (E-beam) machine. Unlike the photographic process used today to engrave semiconductors, the electron beam inscribes circuitry directly on the chip, with far greater precision. Perkin-Elmer intends to market a commercial version of this machine within the year. The Japanese, who have been big customers for U.S.-made photolithographic machines, are now building most of their own, and developing E-beam machines too. Says Gaynor N. Kelly, executive vice president at Perkin-Elmer: "Without government investment in the early stages of R&D on advanced lithographic tools, I doubt we'd still be in a race with the Japanese."

Many chipmakers, however, are far from convinced that such programs are what their industry needs just now. Intel, for example, chose not to participate in the VHSIC program because, says Chairman Gordon E. Moore, "VHSIC required the same resources we needed for our commercial programs, particularly people who are in short supply." VHSIC's commercial utility, he argues, depends on how fast the demand for custom and semicustom chips grows. Last year they accounted for less than 10% of the market. Maynard thinks they will claim half of the market by the end of the decade. Moore thinks 20% is more like it and argues that private industry can meet the commercial demand for such chips without VHSIC technology.

More broadly, Moore argues that the Pentagon's demands are diverting resources—especially people—away from semiconductor research with high commercial potential into esoteric military work. Indeed, a new National Science Foundation study predicts that industry will face a shortage of electrical and electronics engineers, as well as computer specialists, over the next few years. That would slow progress, and raise costs, in the industries that employ them.

continued



ARTHUR MEYERSON

On the B-1 bomber line *at LTV's Vought Aero Products division, a $10.1-million flexible manufacturing system built by Cincinnati Milacron can machine 541 parts in one run.*

Downstream from VHSIC lies the so-called Strategic Computing program. It is supposed to get some $600 million over the next five years from the Defense Advanced Research Projects Agency (DARPA), which finances high-risk projects with potentially high payoffs. In the past it played a key role in the development of such techniques as computer time sharing and languages. Much of the $600 million is going to universities and corporations to stimulate research into microelectronics, computer architectures, and artificial intelligence. The project is aimed at developing computers that understand human languages, synthesize speech, process visual information, and simulate human reasoning.

The military goals include developing vehicles that can drive themselves, a large-scale battle management system, and a "pilot's associate"—a machine that would verbally deliver information to fighter plane pilots and take orders. The civilian spinoffs are distant but could be immense. DARPA is the biggest single dispenser of dollars to U.S. industry in a global race to produce what could be the next revolution in computer design (see "Reinventing the Computer," FORTUNE, March 5).

DEFENSE SPENDING, of course, has to be judged on its own terms and not for its value as surrogate industrial policy. In the words of Secretary of Defense Caspar W. Weinberger, "What we spend is designed entirely to preserve the peace. Some of it just so happens to help American industry."

Almost any other type of R&D program would be likely to yield greater returns on investment. The Japanese spend their national R&D money on specifically commercial projects. More efficient research aimed at developing distant technologies may emerge in the U.S. now that antitrust laws have been relaxed to make room for joint industry research efforts like the Semiconductor Research Corp., which is spending $13.5 million this year to finance basic research at universities.

Nonetheless, the technical spinoffs from military spending have provided powerful consolation prizes over the years. DARPA's artificial intelligence may yet prove to be tomorrow's follow-up to earlier military technologies, like the jet engine and the computer, that went on to change the world. The military isn't the best R&D game in town, but it's the longest-running game—and for now, the one with the biggest pot. ■

PRACTICAL PENTAGON PEDAGOGY

■ At Fort Knox, Kentucky, recruits fresh from boot camp, many innocent of high school diplomas, are learning to repair laser range finders and other sophisticated systems on the Army's new M-1 tank. Tracing with their fingers and mouthing words as they go, they use manuals crammed with flow charts and an electronic practice panel full of switches to learn the basics of trouble-shooting. Then they lower themselves into one of the $400,000 mock-ups of the M-1 turret and practice the delicate art of hooking up cables with fragile connector pins that lead to a diagnostic computer. Hand-held readout devices, also connected to the computer, tell them which electronic modules to replace in the tank. "You could almost walk in off the street and do it," says one.

The Department of Defense runs the world's largest training-school system (1984 budget: $13.4 billion). But conventional training couldn't cope with the complicated weapons developed during the 1970s, so the Pentagon made training more sophisticated and the repair work itself simpler. The systems it has developed, like the M-1 tank program, have begun to attract the attention of civilian companies and educators. A voice-controlled electronic repair manual (the information appears on a thin, portable screen) developed for the Pentagon by Texas Instruments could be a common sight on civilian shop floors in the 1990s. General Electric has used its experience building simulators for fighter pilots and tank crews to trouble-shoot automated factories and train locomotive mechanics.

The military also makes widespread use of computer-aided instruction—Defense Department analysts figure the technology chops training time by 30%—but not much of the software has made it to civilian life so far. Senator Claiborne Pell (D-R.I.) was expected to introduce legislation this month to create an office in either the Labor or Education department to catalogue what's available and adapt some programs so they can be used by small businesses or for training dislocated workers. Meanwhile the Pentagon is returning veterans to society with better training than ever. Last year 960 computer programmers, 4,044 radio and microwave technicians, 8,088 vehicle mechanics, and 20,755 aircraft maintainers left the services to look for civilian jobs. Partly to aid their transition, the Pentagon has just completed a $2-million project matching military job descriptions with Labor Department classifications. That may help the 5,237 "combat operations control, general" veterans whose experience with radar and electronics might otherwise go unnoticed.

—John Paul Newport Jr.

ROBERT HOWER

Computer instructions *help a recruit learn to maintain M-1 tanks at Fort Knox.*

WHEN PAYING OFF A RAIDER BENEFITS THE SHAREHOLDERS

Most corporate executives, and the SEC, abhor "greenmail"—the increasingly common practice of using stockholders' money to persuade a potential acquirer to go away. But there are worse things for stockholders than greedy suitors.

■ *by Richard I. Kirkland Jr.*

WHEN IAN WILSON, chief executive of Honolulu-based Castle & Cooke, picked up the phone on the morning of March 9, Texas financier Charles Hurwitz was on the line. According to Wilson's sworn testimony, Hurwitz, who already owned nearly 12% of the $1.5-billion-a-year food company, warned that he was about to purchase another 18% of the company's stock. Hurwitz then said that if Wilson and his board of directors didn't want to see him take control, their only option was to buy him out at a fat premium—pronto. (Hurwitz, also under oath, denies making this threat.) First Wilson sued to block the Texan from buying any more shares. Then he caved in and bought back Hurwitz's shares for $14 million more than the investor had paid.

A large investor's pitch for a payoff is rarely so graceless as the one Hurwitz allegedly made—and certainly doesn't come via an anonymous message in an envelope. Instead, an investor with an acquiring mind may accumulate shares, make a tender offer, or threaten a proxy fight. Once management has established that it might successfully block his bid for control, he may agree to a "bribe" and go away. In just that way Warner Communications recently paid Rupert Murdoch, the Australian press baron, a 33% premium for the 5.6 million shares he had bought in his effort to take over the entertainment giant. Warner kicked in an additional $8 million for "expenses" in exchange for Murdoch's pledge to leave the company alone for ten years.

RESEARCH ASSOCIATE *Philip Mattera*

In a less common variation, an investor with no apparent hankering for control may pick up a large chunk of stock and wait, as takeover rumors swirl, for management to make him an offer he can't refuse. One sign that someone may be after a quick payoff is a position of just under 10% of the company. An investor holding more than 10% is considered an insider by the Securities and Exchange Commission. If an insider sells back his stock to the company in less than six months, his profits may be forfeited if other shareholders sue. The Bass brothers of Fort Worth, Texas, held 9.9% of Texaco, and did nothing until the men who wear the stars offered them $1.28 billion to get it back. That was a 12% premium over the market price and brought the Basses an estimated $400-million profit.

ONCE RARE, these dramatic buyouts are increasingly the defensive tactic of choice among managers anxious to avoid takeover fights or to end battles already joined. In March alone, as the table shows, four U.S. corporate giants—Quaker State Oil, Texaco, Warner, and St. Regis—shelled out more than $1.5 billion to buy back blocks of stock held by unwanted investors. Academics refer to these premium buyouts as targeted stock repurchases. On Wall Street, the phenomenon is sometimes called a goodbye kiss. More commonly such payments are known as greenmail in acknowledgement of the strong whiff of extortion they carry.

Compared with other options commonly used to fend off unwanted acquirers—selling a company's so-called crown jewels, loading up the balance sheet with debt, or recruiting a buyer more congenial to incumbent management, called a white knight—greenmail causes the least disruption to the company's operations. Under most corporate charters, such payments require no OK from other shareholders. Best of all, should any of those shareholders sue—and someone usually does—the courts have so far never found these payoffs to be a breach of management's fiduciary duty.

Still, hardly anyone likes greenmail. At its darkest, the phenomenon is seen as top executives using small shareholders' money to buy out larger ones in order to protect the executives' jobs, and doing so in a way that lowers the value of the small shareholders' stock. Most chief executives of companies that have recently paid greenmail have been sued by angry shareholders. Citing that as their reason, all C.E.O.s contacted by FORTUNE declined to defend their actions in interviews. Even executives in unaffected companies refused to talk about greenmail on the record. Some cited a distaste for openly criticizing corporate colleagues. Others presumably preferred not to have to eat their words should they fall into similar straits.

But one New York-based chief executive can't resist fuming, "The practice just stinks. It's wrong. Managements may be able to find a million reasons to justify it, but basically the purpose of paying greenmail is to keep management in control, not to protect shareholders." Observes the chief executive of a multibillion-dollar corporation in the Mid-

CONSTRUCTION BY SU FRIEDRICH, PHOTOGRAPH BY CARL ZAPP

west, "Basically it's blackmail." Agrees Bevis Longstreth, a former SEC commissioner, "It just isn't right. Those corporate assets belong to shareholders pro rata. So how is it that managements can justify paying one dissident shareholder a disproportionate share of the assets they all own?"

As a matter of simple equity, they can't. What managements always argue is that *they* know best how to create wealth for shareholders, and thus in the long run the peace such payoffs buy will benefit the remaining shareholders. To buttress their case, they usually shell out even more of the shareholders' money to get investment bankers and lawyers to certify that this is so. Says lawyer Martin Lipton, whose specialty is defending incumbent managements: "As matters now stand, the only practical solution for managements seeking to maximize long-term shareholder value is to pay the greenmailer."

If they wanted to, executives could put through a change in the corporate charter to forbid stock repurchases at a premium unless they were part of a general tender offer. Mead Corp., a $2.4-billion-a-year forest products company, has had just such a provision in its bylaws for more than 50 years. Why don't more managements follow Mead's lead? "Because they like having the option as a way of removing troublesome shareholders," says Longstreth. New York-based investor Carl Icahn is one shareholder whose frequent sorties into ailing companies (Anchor Hocking, Owens-Illinois, Hammermill Paper) have sometimes ended in his shares being bought back at a premium by panicked managements. Says Icahn: "I've often been willing to take a position and simply sign a standstill agreement because I wanted to go on the board. But management will basically say to me, we don't like you, here's a lot of

Mr. Chairman:
Shell out...
or else!

Takeover-wary managements *at these companies were willing to pay a king's ransom to rid themselves of acquisition-minded stockholders. Some of the sellers listed below are the lead companies in groups headed by investors Charles Hurwitz (United Financial), Saul Steinberg (Reliance), and Sir James Goldsmith (Dia Investment). News International is controlled by Rupert Murdoch.*

DATE	COMPANY BUYING BACK STOCK	SELLER	SELLER'S GROSS PROFIT (millions)	PER-SHARE PREMIUM OVER MARKET PRICE
4/84	Castle & Cooke	United Financial	$14	$4.232
3/84	Quaker State Oil Refining	Reliance Financial Services	$11	$5.25
3/84	Warner Communications	News International	$50	$8.025
3/84	St. Regis	Dia Investment (Antilles)	$50	$11.875
3/84	Texaco	Bass Brothers Enterprises	$400 (est.)	$5.375
2/84	Houston Natural Gas	Coastal Corp.	$42	$14.70
11/83	Blue Bell	Bass Brothers Enterprises	$49	$11.138

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money, go away. And if I don't take it, they threaten me with onerous and extremely expensive litigation."

To put an end to such protection payments, in late March SEC Chairman John Shad asked Congress to step in. Shad proposes a new law requiring that targeted buybacks of a company's shares at a market premium first be approved by a majority vote of all shareholders. Purchases of shares held for longer than two years would be exempt from the plebiscites. That proposal was just one of a number of changes recommended by the SEC's advisory committee on tender offers, an all-star conclave of some of the most prominent players of the mergers and acquisitions game, including Lipton, lawyer Joseph Flom, and investment banker Bruce Wasserstein, managing director of First Boston Corp.

At first blush, the SEC's intervention seems eminently justified. Bad enough that greenmail seems a form of corporate extortion. Even worse, various studies have found that greenmail payments depress the value of the remaining shareholders' stock by 4% to 13% on average. The biggest losses occur when such payoffs help quash a formal takeover bid. For example, the day after Houston Natural Gas bought off maverick oilman Oscar Wyatt Jr. in February with an offer of $60 a share for his holdings—plus a peace payment of $15 million for about one month's worth of legal fees—Houston Natural's shares plunged from $52.50 to $43.25. Arbitragers, who had picked up Houston Natural shares on the rise in anticipation that Wyatt's $68-a-share tender offer would succeed, got hammered. In a rare breach of institutional etiquette, one arbitrager, Guy Wyser-Pratte of Prudential-Bache, has persuaded his company to sue the directors of Houston Natural, a client of lawyer Lipton's, for violating their fiduciary duties to shareholders.

BUT UPON closer examination, it's far from clear that greenmail has harmed shareholders on balance. Academics far removed from the takeover fray are the ones doing the examining. Sanford Grossman, an economics professor at the University of Chicago, constructs a theoretical, perhaps farfetched, case in which paying greenmail seems justified: management has knowledge of some imminent business development—a stunning technological breakthrough, say—which it must conceal from potential competitors. In that instance the increase in the company's stock price once that information is known could easily exceed the value of the ransom paid to fend off a potential acquirer.

Stronger evidence in favor of allowing greenmail comes in a fascinating new study by professors Wayne Mikkelson of the University of Chicago and Richard Ruback of MIT's Sloan School of Management. They tracked 32 cases of targeted stock repurchases that occurred between 1978 and 1981. Instead of examining the share price just before and just after the payoff, they went back to the time a so-called raider acquired 5% or more of a company's stock. After adjusting for broad movements in the stock market, Ruback and Mikkelson found that while share prices fell 1.7% on average after a buyback, those prices were *still* some 2% higher than before the potential acquirer appeared on the scene. "I was shocked by those numbers," admits Ruback.

Martin Lipton

"Corporations seeking to maximize long-term shareholder value have to pay the greenmailer."

GEORGE LANGE

Guy Wyser-Pratte

"I've never seen a case where management benefited shareholders by paying greenmail."

An application of the Mikkelson-Ruback model, but without discounting market swings, shows that Texaco was selling for $36 to $38 a share in mid-January, before it became known that the Bass brothers were on the prowl. Even after dropping nearly $6 a share on March 6, the day the Basses were bought out, Texaco's stock closed at $38.75 a share. It has since been hovering in the $39 to $40 range. Similarly, when British investor Sir James Goldsmith acquired an 8.6%

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LITTLE, BROWN and COMPANY

block of St. Regis, the stock was selling at around $35. Even after falling more than $3 a share on the news that Goldsmith had been taken out at $52 a share, St. Regis stock never dipped below $37 a share and recently stabilized at around $40.

The Mikkelson-Ruback findings support the seemingly radical conclusion that denying savvy investors the chance to engage in a little legal extortion might in fact be bad for shareholders. In most cases shareholders would be better served if managements didn't pay greenmail. But even when they do pay, most shareholders—though perhaps not arbitragers—still prosper, if for no other reason than that the company may catch the eye of yet another would-be acquirer.

Most economists have no doubt that both shareholders' interests and economic efficiency would suffer if the overall level of takeover activity declined. Michael Jensen, professor of finance at the Graduate School of Management at the University of Rochester, figures that shareholders of acquired companies generally gain as much as 20% to 30% on their investments as a result of the takeover process. He fears takeovers would dwindle if potential acquirers could no longer anticipate greenmail to take the pain out of a failed takeover bid. Concludes Jensen: "I'm convinced that the SEC's proposed rule restricting these payments will only end up harming shareholders and strengthening the hand of entrenched managements."

REJECTING Jensen's laissez-faire logic, John Huber, director of the SEC's corporation finance division, argues that banishing greenmail would not deter "someone who is serious about a takeover," as opposed to a raider who would happily be bought off. But it seems almost impossible to distinguish between the two. Says Gary Palmero, a financial analyst with Oppenheimer & Co., "The point is, guys like Jimmy Goldsmith or the Basses have the marbles. Choosing to call their bluff is a very dangerous game to play."

In arguing for the SEC proposal, Huber says, "The pressure put on management by the greenmailer is simply not the kind of activity that tender offers were designed to permit." Former SEC Commissioner Longstreth goes further, saying that "even if prohibiting greenmail reduces takeover activity somewhat," he'd "take that risk." But lacking evidence that greenmail has harmed shareholders or certainty that preventing it wouldn't leave them worse off, it's hard to see why that's a risk worth taking.

FRANCE FLIRTS WITH THIRD WORLD DEBTOR STATUS

■ Despite the initial success of the Socialist government's swing to the right, some international bankers fret that France is headed inexorably toward status as a risky international borrower. The size of the French debt isn't the problem. The government admits to $56 billion of medium- and long-term foreign debt. Unofficial estimates put the total, including short-term loans, at over $100 billion, a tower of debt larger than that of either Brazil or Mexico. But that's a burden an industrialized country such as France can support.

What worries bankers is that the government might not keep on taking its own harsh medicine. France's borrowing binge began in mid-1981 when the government of Francois Mitterrand chose to stimulate consumption while the country's major trading partners were in an economic slump. The results were predictable. The market for French goods was depressed, yet French consumers gobbled up imports. Private capital fled after the election of the Socialists, helping to devastate the balance of payments. The currency markets pummeled the franc, prompting three devaluations.

The French government is coy about its external debt. It only recently acknowledged the medium- and long-term total of $56 billion. Morgan Guaranty Trust Co. estimates that at the end of 1983 France's total external debt, including short-term loans and interbank deposits, was as much as $110 billion. The payments required to service this debt range from $8 billion to $10 billion a year, although a bunching of maturities may require interest and principal repayments of nearly $14 billion a year in 1987 or 1988.

All of this is manageable if France can steel itself to keep the debt from growing further. So far the news is good. Estimates by the Morgan bank show that French borrowings in the Euromarket dropped to $8.2 billion in 1983 from $14.2 billion in 1982. Bankers expect France to borrow about $8.1 billion in 1984, most of which will involve rolling over existing debt.

Mitterrand benefited tremendously from the international economic recovery. His switch from stimulative spending to austerity 18 months ago cut demand for imports among Frenchmen just as other countries were climbing out of a recession and buying French goods. The trade and current account gaps improved dramatically. The trade deficit fell from $15.9 billion in 1982 to $7.7 billion, while the current account deficit dropped from $12.1 billion to $3.8 billion and could be almost eliminated this year. "There has been an adjustment," says Stan Rudcenko, a Bankers Trust economist in London. "That's the fundamental difference between France and Brazil."

HOW DEBT STACKS UP

COUNTRY	EXTERNAL DEBT in billions	% OF GROSS DOMESTIC PRODUCT*
Brazil	$85.2	59%
Mexico	$87.0	52%
Canada	$99.5	34%
Argentina	$36.5	30%
France	$106.1	20%
Italy	$66.0	19%
W. Germany	$119.4	18%

*Countries ranked according to percentage of GDP
Source: Estimates by U.S. banks

France is the most heavily indebted of the major European nations.

But next year the French trade position is almost certain to deteriorate. With the French economy growing, imports will increase, while exports are unlikely to grow as rapidly. The current account balance could slip deeply into the red again, which would bring France face to face with one of the fundamental laws of the financial universe. That law, as expressed by Rudcenko: "You can't go on indefinitely running deficits of $10 billion or $12 billion a year."

The deficit is likely to put the franc under pressure again. Mitterrand will have to allow the franc to fall, a step that hasn't been easy for the government to take in the past. If the German mark strengthens rapidly against the franc, as many economists expect, France will face the unpalatable task of accepting a realignment of the European Monetary System, which allows the franc no more than a 4.5% swing against other European currencies. "There will be pressure for another de facto franc devaluation," says Roger Shields, chief international economist at Chemical Bank.

It may prove politically impossible for Mitterrand, or any other French president, to win the battle against the debt bulge. The eventual cure will be to keep French economic growth no greater than that of its trading partners, which might mean an average of 2% a year in real economic growth, a figure that may be an affront to Gallic pride. The test of Mitterrand's determination will come next year as he prepares for the next major French election in 1986. Workers are demanding higher wages and faster economic growth. If Mitterrand gives in, stimulating the economy again would bring increased borrowing. And that could ultimately place control of economic policy in the hands of France's bankers. **— Gary Hector**

write the budgets that delivered on the Socialists' campaign promises—and plunged the nation into economic chaos.

As Mitterrand switched from expansion to austerity, Fabius led the way. A year ago, his reputation as a reformed big spender growing, Fabius was named Minister of Industry. As such he holds sway over a sprawling family of state-owned companies. Thomson-CSF, Saint-Gobain, and six others were nationalized in 1982, while Renault and Elf-Aquitaine have been state-owned for years. Fabius decides who will get precious injections of government capital.

Fabius replaced a hard-line Socialist, Jean-Pierre Chevenement, the whiz kid of the Socialist party's left wing. Chevenement's spell as Minister of Industry lasted only eight months, but it amounted to eight months of frustration for the presidents of some of the nationalized companies. Charismatic and loquacious, Chevenement loved to stage splashy conferences on industry that assembled thousands. His staff constantly pestered

[500]

SPECIAL REPORT

TEN YEARS THAT SHOOK THE FORTUNE 500

THE DECADE just ended—1974 through 1983—was the toughest for business in nearly half a century. It began with the deepest economic decline since the Depression. It ended with the nation picking itself up from back-to-back recessions. Mild in their effect on many industries, the twin recessions of the early 1980s devastated the manufacturing industries that loom large in the FORTUNE 500.

This special report closely examines how the 500 largest U.S. industrial corporations and their shareholders fared over the dismal decade. The hangover from that period, and the strangeness of the recent recovery, are visible in the 1983 profits of the FORTUNE 500. Sixty of the 500 lost money, a record for the 30 years that FORTUNE has compiled this list of industrial companies. Net of those losses, the group's profits were $68.8 billion. In real terms (with inflation stripped out), that was 22% below the $43.6 billion earned in 1974, itself a recession year.

That punishment might seem understandable if the 500 had been leading wasteful, no-account lives. But they have been disciplined savers, investing upward of $300 billion of retained earnings in their businesses over the ten years. And for that they got profits not even up to 1974's.

The 500 were hammered through the decade by new and unfamiliar costs. The Clean Air and Clean Water Acts and the Occupational Safety and Health Act were passed before 1974, but they administered their largest blows in the years since. Foreign exchange rates began to float in 1973, imposing new uncertainties on international companies. The clincher was energy costs. Date of takeoff: October 1973. Effect on an industrial world accustomed to declining energy prices: terrible.

The story that begins overleaf profiles 13 stars of the dark years—companies that outperformed all others. The next story looks at which investment strategies worked, and which didn't (page 239). Others focus on corporate name changes (page 249), on a drop in the 500's number of employees (page 253), and on the worst big mergers of the decade (page 262). The annual FORTUNE 500 directory begins on page 274, followed by a new feature that ranks the companies by 14 statistical measures (page 300).

CORPORATE STARS THAT BRIGHTENED A DARK DECADE

Thirteen companies managed to put together sterling records, earning returns on shareholders' equity that set them above the crowd. The ingredients of their success included market leadership, tight control of costs, and a talent for sticking to what they know. ■ *by Carol J. Loomis*

THE RIGORS of the last ten years created far more lamentable corporate records than laudable ones. Yet some of the FORTUNE 500 performed heroically. To single out a few, Chrysler and ConAgra got new managements and turned themselves from losers into winners. Capital Cities Communications, H.J. Heinz, and VF Corp. improved their profitability sharply, won reputations for excellent management, and were rewarded with handsome rises in their stock prices. A company that didn't even exist when the decade began, Apple Computer, vitalized the new personal computer industry and vaulted onto the 500, where in 1983 it ranked 299th in sales and 172nd in profits.

Another collection of stars are the subjects of this article. They are the companies on this year's 500 that surmounted the decade's traumas with particular style and made themselves its profitability leaders, earning the best returns most consistently. FORTUNE's benchmark in picking these standouts was return on shareholders' equity. Return on equity goes to the essence of corporate performance, and is just about the only measure that allows direct comparisons of companies in different industries. The median return for the 500 averaged 13.2% over the decade. Stardom was conferred on companies that averaged at least a 20% return and never sank below 15%.

That is an extraordinarily high standard. Consider the quality of a long-running 20% average: it is analogous to a savings account that annually earns the holder 20% interest—how many savings accounts do you know offering even half that much?—and that earns this premium rate on a larger amount each year, as profits are retained and begin themselves to earn an average 20%.

RESEARCH ASSOCIATE *Alison Bruce Rea*

Such corporate savings accounts are so rare that only 13 companies among the 500 had records brilliant enough to meet the tests. The stars come from a spread of industries, but tend to share certain characteristics. Most are leaders in at least one product market; many are tight with a dollar; and many believe in sticking to businesses they clearly understand. For the most part (though there are exceptions) they do not lean heavily on borrowed money, which is one risk-laden route to a high return on equity. The low leverage is something of a surprise, since debt might seem the formula for success in an inflationary period, when loans can be paid back in cheap dollars. But most of the stars didn't need that crutch.

The 13 are led by a profit phenomenon, American Home Products, whose return on equity not only averaged 29.5% during the 1974-83 decade, but also has held above 20% for 30 straight years. American Home has traditionally ducked the limelight, and many businessmen and investors would have trouble naming a single product it makes. Anacin is one; others are Chef Boy-Ar-Dee pasta products, Brach's candy, and Gulden's mustard. But the bulk of the company's $627 million in profits last year (earned on $4.9 billion in sales) came from prescription drugs and nondrug products marketed through doctors, among them cardiovascular drugs (such as Inderal), oral contraceptives (Lo/Ovral), and infant formula (SMA).

Below American Home on the list are two other pharmaceutical companies, SmithKline Beckman and Merck—so it apparently helps to be in that industry. But the other ten companies on the list are strikingly diverse. Two industries that delivered investors a lot of action in the decade, communications and energy, have but a single representative each: Dow Jones and Mitchell Energy & Development. One entry, IBM, is near the leading edge of technology; another, Deluxe Check Printers, is on the trailing edge.

Certain household names made the assembly: Kellogg, Maytag, and Coca-Cola. But it also includes some relative unknowns that, amazingly, ply their trade in chemicals and metals, industries normally thought to be ruled by unrewarding commodity economics. Nalco Chemical sells specialty chemicals used, for example, in water treatment and corrosion prevention. Worthington Industries turns semifinished steel into finished steel for such customers as automotive and appliance companies. Dover Corp. is a metal bender whose nearly two dozen divisions make items ranging in size from elevators to wire closures for meat packages.

The generalization that explains the profitability of these three companies—and that goes a long way to explain the whole list—is that they have established a special

PHOTOGRAPHS BY BRUCE DAVIDSON—MAGNUM

standing in their markets. On the inside cover of its 1983 annual report, Dover lists 27 products its divisions make; it is the market-share leader in 22. Nalco's edge is its expertise in the use of the chemicals it sells; it is counselor to its customers and problem-solver. In steel, Worthington has a reputation for quality workmanship that allows it to obtain premium prices. Additionally, it was started (in 1955) and is still run by a man, John H. McConnell, who is a bear about efficiency.

THE OTHER market-share leaders on the list include IBM, Kellogg, Coca-Cola, Deluxe Check Printers (it has more than 50% of the check-printing market), and Dow Jones (through its flagship product, the *Wall Street Journal*). Leadership turns up in other forms as well. American Home thinks of itself as having "specialty products" and as marketing these with particular skill. The preeminent quality of Maytag's appliances is celebrated in the company's advertising and confirmed by the premium prices it commands. Merck, though it has gone through a dry spell in research that has been whittling its return on equity, has been a research giant over the years and is still riding some of its earlier breakthroughs. And SmithKline has thrived with the standout new drug of the last decade, Tagamet, a therapeutic for ulcers.

In a way, the preeminence extends to Mitchell Energy. It has excelled at finding oil and gas, and its revenue growth has been extraordinary—up from $35 million in 1973 to nearly $1 billion last year. But to an extent not true of any other company on the list, Mitchell owes its presence there to leverage. At the end of its 1983 fiscal year (ended in January 1983), Mitchell's capitalization was 35% equity and 65% debt.

That load partly reflects large real estate holdings the company has in Houston, its home base. It also reflects Chairman George P. Mitchell's conviction that a growing company has to risk high debt. But a few stings have been felt from that risk: the company suffered liquidity pains in the mid-1970s and has been in mild discomfort lately. Mitchell, who founded the company in the 1940s and still owns more than half of it, is currently bent on getting his debt down. But he hasn't turned conservative: he's angling, he says, for a capitalization of 60% debt.

Beyond Mitchell and Worthington (whose capitalization was recently about 40% debt) the Gang of 13 does not qualify as a lender's delight. In the early part of the decade, Kellogg loaded up on debt by its standards, taking on $75 million in long-term 8⅝% money "to protect working capital during this uncertain inflationary period." The company's worries about working capital proved groundless, and the debt's mere existence appears to have made Kellogg feel a little tacky. In 1982, several years ahead of the debt's maturity, Kellogg wiped the liability off its balance sheet by an arcane maneuver that cosmetically (but not actually) shifted the obligation to third parties. Meanwhile Kellogg booked a profit on the deal. Says William E. LaMothe, 57, Kellogg's chairman: "It was simply debt we didn't need."

The adequacy of Kellogg's working capital fits the proposition that market leaders have an unusual ability in times of inflation to pass along their increases in cost to customers. That does not mean market leaders are free of worry about price increases—they agonize about losing business like everyone else. But when push comes to shove, a strong brand name or a rock-solid reputation for service will usually carry the day.

A GALAXY OF THIRTEEN

COMPANY	AVERAGE RETURN ON EQUITY 1974-83
American Home Products	**29.5%**
Dow Jones	**26.3%**
Mitchell Energy	**26.0%**
SmithKline Beckman	**25.4%**
Kellogg	**24.8%**
Deluxe Check Printers	**24.1%**
Worthington Industries	**23.9%**
Maytag	**23.1%**
Merck	**21.9%**
Nalco Chemical	**21.5%**
IBM	**20.5%**
Dover	**20.3%**
Coca-Cola	**20.3%**

To qualify for this assembly of stars, a company had to be on this year's FORTUNE 500 list, to have averaged at least a 20% return on year-end shareholders' equity over the 1974-83 period, and to have been so consistent that its return never dipped below 15%. Only 13 companies managed that on day-in, day-out operations. Another big earner, General Cinema, was excluded from the table because the company exceeded 20% only with the help of gains from the sales of assets.

Kellogg found that out early in the decade when commodity prices roared upward and the company faced the need to sharply increase cereal prices. Initially, costs rose faster than sales and profit margins shrank. But when commodity costs dropped in 1975, Kellogg kept part of its earlier price increases and in two years raised its return on equity dramatically, from 20% to 26%. So much for the ravages of inflation.

The basic case is that powerful brand names—and even more so, unique products—can be priced at levels that aren't tied to underlying costs. Security analyst Richard R. Vietor of Drexel Burnham Lambert explains the pharmaceutical equation: "Drug prices are not set in relation to the cost of producing the product. Rather, they're set in relation to their value to the buyer. If you're a pharmaceutical company and your drug has advantages over others on the market, the consumer is going to want your drug. And he will step up and pay you a price that will return you unusually good profits."

That generalization certainly applies to Tagamet, a true wonder drug that pushed SmithKline's return on equity above 30% from 1979 through 1981 (after which new competition for the drug and an unrewarding investment in Beckman Instruments knocked returns below 25%). The irrelevance of costs also applies to another kind of unique product, the *Wall Street Journal*. During the past decade, Dow Jones raised the paper's price repeatedly, typically explaining the increases by citing rising costs for postage and newsprint, which the company certainly incurred. But readers did not accept the price because they thought Dow Jones deserved the chance to pass along its costs and preserve its traditionally high margins on the paper. They paid the price because they want and need the product. They would have paid it just as readily had Dow Jones's costs been absolutely stable.

Not even a commanding market position can override a sea change in the environment, as Dover can unfortunately testify. During the Oil Patch boom, the company's Norris division made a mint on sucker rods, which are lengths of forged steel used to work the pumps at the bottom of drilling rigs. Norris offered both a first-class product and a nursemaid level of service, trucking the rods directly to the well site to protect drillers from downtime in their rigs. Norris also spent $25 million tripling its plant capacity to meet demand. Then the energy market deflated—and so did sucker rod prices, Norris's profits, and Dover's return on equity (which dropped to 15.4% in 1983).

Even so, says Dover Chairman Thomas C. Sutton, 63, the decision to expand Norris's capacity was eminently right, since it allowed the division to both serve its customers well and make the most of an unprecedented market opportunity: "When the circus comes to town, you rent every room in the hotel, at the best prices you can get. The circus arrived in the oil business when OPEC came along, and I would say that Norris totally capitalized on the marketplace. We earned an awful lot of money for the shareholders."

DOVER KEEPS rigorous control of costs. Its headquarters, in New York City, are remarkably modest for a company that last year had just over $1 billion in sales. In the mid-1970s, headquarters housed 13 employees; today that's escalated all the way to 21. Sutton and Gary L. Roubos, 47, Dover's president and chief executive, are repelled by the idea of golden parachutes. Dover has no executive limousines and no corporate airplanes, except for two small prop planes that operating divisions use to fetch customers for plant tours.

Dover may have to share the trophy for austerity with American Home, which is nearly five times bigger in sales and has no planes at all and only one limousine. In a world where chief executives of large FORTUNE 500 companies typically have multiple secretaries and assistants, Chairman John W. Culligan has no assistants and only one secretary. "We put a strong emphasis on not increasing staff," says Culligan firmly. The control of costs extends very definitely to amounts paid advertising agencies, consultants, and outside attorneys. "The company's impossible," says a consultant. But American Home is also disciplined in its attitude toward executive pay: if a division doesn't increase profits year to year, its managers don't get bonuses. Period, end, no excuses, no exceptions.

The divisions don't commit capital on whim either. Expenditures right down to $500 or so must be approved by headquarters. "I approve everything," says Culligan. "Let me amend that. Everything comes to me—they hope I will approve." An outside director who marvels at this system is Edwin A. Gee, who is chief executive of International Paper and formerly was at Du Pont. Says Gee: "They are very careful at American Home with the shareholders' money. They check everything, and that puts a tremendous load on the top management. And if it weren't for the fact it works, I'm sure we would all be saying that's a terrible way to run a $5-billion company. But if I were running that business, I sure wouldn't monkey with it."

The ultimate problem for American Home and most of the other companies on FORTUNE's list (though not Mitchell, which is busy paying down its debt) is how to cope with all the money they make. Few of these companies need to reinvest a lot of money to keep on making a lot of money. That's the way of good businesses—they insist on throwing off cash.

One way to handle this "problem" (for which most businessmen would kill) is to pay out high dividends. American Home pays out about 60% of earnings; Maytag has averaged over 70% this last decade. In a few years of the ten, IBM paid out more than half its earnings. Recently, with its growth surging, the company let its percentage payout fall back. Though investors don't always think of it this way, the lower payout is good news considering the rising returns IBM has been making on its retained earnings. For investors, the most wonderful holding of all is a high-return company that has high-return opportunities for reinvesting profits.

Another way besides dividends to get spare cash to the shareholders is through stock repurchases. This crowd knows the game well. American Home, Maytag, Coca-Cola, Nalco, and SmithKline have all announced stock repurchase plans recently, and several other companies among the 13 have bought their own shares in the past. Coca-Cola's and SmithKline's repurchases follow large acquisitions they made involving the issuance of new shares. SmithKline bought Beckman Instruments for $1 billion in stock. Coca-Cola bought Columbia Pictures for $692 million in cash and stock. By buying in their shares now, the two acquirers

Eugene R. Olson and Joseph L. Rose
DELUXE CHECK PRINTERS

■ *Selling a commodity—printing—in a world supposedly giving up checks, Deluxe nevertheless has flourished under Rose, 72 (right), chief executive until 1977, and Olson, 58, head man since. The company prints in 61 plants, fills better than 95% of orders in two days, and ships 99% error-free. Deluxe's market share of above 50%, Olson says, climbs slightly every year. He regards technology added a few years back as crucial: "We'd be out of capacity if we hadn't changed."*

are, in effect, using cash to undo their earlier use of stock.

A byproduct of repurchases is support for the stock—and some companies in this group have found self-help handy over the years. As the following story points out, this decade began in an aberrant era of very high price-earnings multiples for certain richly profitable companies. Among those bid up in price were Coca-Cola, Merck, American Home, IBM, Nalco, and Deluxe Check.

Then both the market and the multiples of these stocks collapsed. As a result, FORTUNE's 13, despite their superb profitability through the decade, did not collectively have a great time of it in the stock market. Their median total return to investors (stock appreciation plus reinvested dividends) was an annual rate of 13.4%, which is about one percentage point *below* the FORTUNE 500's median. The worst performer of the 13 was Coca-Cola, with a 2.9% annual total return; its price-earnings multiple dropped during the period from about 35 to 13. The star of stars was Worthington, which delivered an annual total return of 41.7%, the seventh-best record in the 500. Gaining a reputation as a corporate moneymaker, Worthington went from a multiple of 6 to a multiple of 21 during the decade. That was without help from stock repurchases, which Worthington has not elected to make.

What Worthington has been doing, however, is buying businesses, the most obvious alternative to shoving money out to the shareholders. But an acquisition strategy often is psychologically difficult for companies with high profitability: the prices they must pay almost inevitably present them with lower returns on the purchased properties than they are earning on their existing businesses. In many cases, if companies were to come to grips with the question of what makes sense, they would probably find it more rational to buy their own businesses, through repurchases of stock, than to pay up for new and often unfamiliar ones.

MANY OF THE COMPANIES on FORTUNE's list seem to have a general inkling that they have succeeded up to now because they didn't branch out into unfamiliar fields. Worley H. Clark, 51, chief executive of Nalco, states a theme articulated by others: "One of the good decisions we made in the last decade was to stay doing what we do best."

Still, the money keeps piling up and has to be deployed. Calling the move "substantially better than buying money-market instruments," Nalco has gone into partnership with a bank to form a leasing company. Worthington has mainly bought other steel processors, thereby expanding but also sticking to its knitting. Dover has very successfully acquired small metal-products companies that the typical 500 company would not bother with. Dow Jones has made a major commitment to cable TV. Maytag, after years of thinking about acquisitions, finally bought two kitchen range companies, Hardwick and Jenn-Air. Daniel J. Krumm, Maytag's chief executive, says he started out with firm financial criteria for acquisitions. "For one thing," he recalls, "I said I would never buy a company losing money. Then I bought Jenn-Air"—yes, a loser. Maytag has since moved the new business into the black.

As they ended their 1983 fiscal years, the 13 companies on FORTUNE's list were displaying various return-on-equity trends. Several companies earned their lowest return of the decade in 1983, hurt by the collapse of the Oil Patch (Mitchell and Dover), the slow pickup in steel (Worthington), or a dearth of important new products (Merck). On the other hand, American Home and IBM were at a peak for the decade.

So was Deluxe Check Printers, in some ways the wonder of the list. Through the decade, investors labeled Deluxe a buggy-whip company, threatened with extinction by the "checkless society." Yet the company's sales quadrupled in the decade. They were boosted both by gains in orders that averaged close to 7% a year and by price increases that customers accepted with equanimity, no doubt in part because many do not have a clue what they pay for checks.

Eugene R. Olson, chairman of Deluxe, says that the forecasters will probably be right someday: the use of checks will level off and then decline. "But we don't know when that's going to be, and I don't think anybody does. We're probably more in touch

John H. McConnell

WORTHINGTON INDUSTRIES

■ *Before starting Worthington in 1955, McConnell, now 60, worked for a while in an automobile plant, where he concluded unions and efficiency didn't mix. So the steel-processing business he built isn't unionized and workers at some companies he acquired have elected to go non-union. They've been lured by attendance bonuses paid in Worthington stock, participative management techniques, and large profit-sharing payments added to salaries (nobody gets hourly wages).*

with the subject of electronic funds transfer than anyone else in the country, and we're quite confident that the growth of checks will continue through the 1980s." The company keeps thinking about the check afterworld and has made small investments in other businesses. But Olson just doesn't sense an emergency: "We don't see anything happening that will be very sudden."

Some other companies on the list probably wish they could see the direction of things with as much certainty. "You tell me what's going to happen to the price of oil and gas," says George Mitchell, "and I'll tell you what's going to happen to this company." Kellogg has been brooding about recent losses in market share in cereals; the company has cut the price of its biggest seller, corn flakes, to meet competition from generics. Merck's chairman, John J. Horan, 63, states his conviction that the company's research is about to bear abundant fruit, though little in the drug industry can be certain.

That the technology revolution lives is not a matter of similar doubt, nor is IBM's central position in it; the company is absolutely aswirl these days with new products and services. Riding technology at a different level, Dow Jones has made itself a leader in information retrieval services. Its chief executive, Warren H. Phillips, 57, suspects that the technology revolution could turn out to be a historical watershed much more important than the invention of the printing press or the Industrial Revolution.

George P. Mitchell

MITCHELL ENERGY & DEVELOPMENT

■ *Named the "most admired" crude-oil company in a recent* FORTUNE *survey, Mitchell began as a wildcatter in the 1940s. Founder George Mitchell, 64, is the son of a Greek immigrant who changed his name from Sava Paraskivopoulis to Mike Mitchell. He owns 62% of the stock, a big enough block to bar a takeover. Mitchell expects the oil giants buying up others to cool their bidding for leases: "I worry about a decline in drilling—but I won't have as much competition."*

The spirit of that thought seems also to be influencing Roberto C. Goizueta, 52, chairman of Coca-Cola: "I think the next ten years are going to be much more an age of uncertainty than the last ten. Managements are going to have to be very flexible and action-oriented. They won't have the luxury to cross all the t's and dot the i's. The world is going to pass you by if you try to do that." Suiting up for action, Goizueta plans to raise Coca-Cola's debt ratio and reduce its dividend payout. The added leverage will work to increase Coke's return on equity. The lower payout will build equity and reduce the return unless Coke manages to invest the added retained earnings at high rates. The company's recent record on that front isn't great. Coke has earned poor returns on its purchase of Columbia Pictures. Goizueta says he's nevertheless delighted to have Columbia and wants more acquisitions.

IT IS INTERESTING to speculate how many of these same 13 companies might average a return on equity of above 20% over the next decade, while never dipping below 15%. Anyone betting against American Home will have to ignore a lot of history. Anyone thinking about Deluxe will have to wonder whether it might not just crack its buggy whip right through another decade. One executive who thinks he understands his company's prospects is Frank T. Cary, chairman of the executive committee of IBM. Asked what he thinks the probabilities are that IBM will meet the list's statistical tests over the next decade, he shoots back: "100%."

Picking the next decade's 20% stars could be lucrative for investors. You cannot buy these 13 companies at book value or close to it; they earn too splendidly for that. But the stocks of many of the companies are relatively low today—certainly in relation to what they sold for in 1973. The median stock among these 13 was then selling at more than four times book value. In early April of this year, the median was 2.7 times book. SmithKline had the lowest valuation, about two times book, and Dow Jones the highest, nearly six times book. At least some of today's prices are not a lot to pay for ever-compounding 20% savings accounts—if only one could foretell which corporations would keep on holding out that offer.

INVESTMENT LESSONS FROM THE DECADE

Stay away from faddish stocks with price-earnings multiples beyond reason. Bottom-fish for underrated companies that appear ripe for turnaround or takeover at bloated prices. Keep an eye out for excellent businesses under temporary clouds.

■ *by Edward C. Baig*

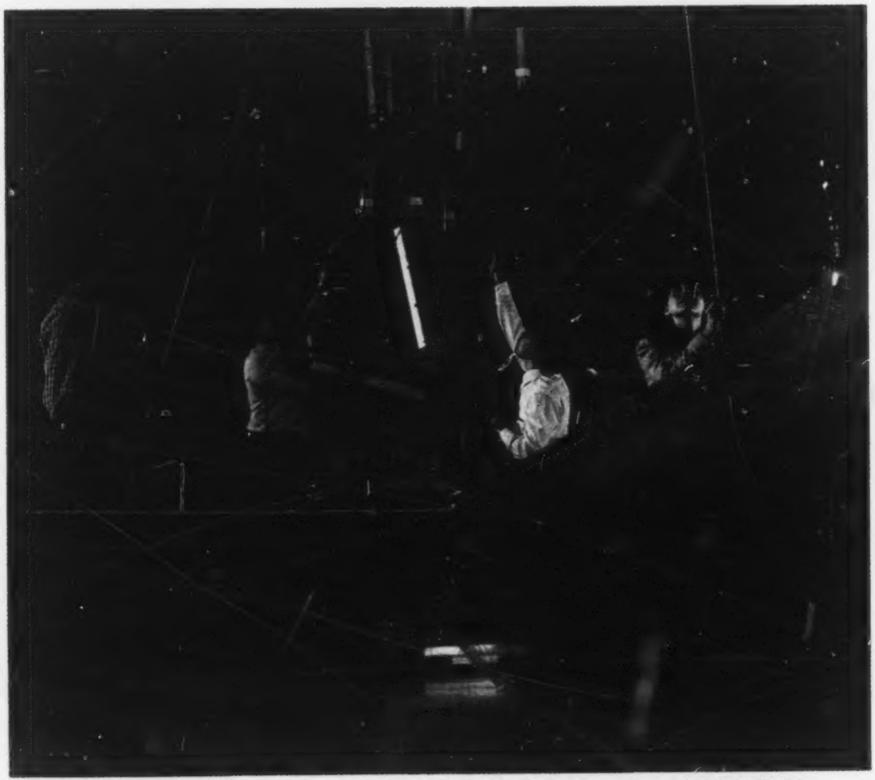
THE PAST DECADE was especially cruel to investors in some FORTUNE 500 companies—but surprisingly kind to those who bet on others. Which investing strategies proved superior? And what does the record suggest about investment strategies for the future?

Investors in general had a tough time in the ten years through 1983. In nominal terms, practically anyone could have made money. Starting from 850 on the final trading day of 1973, the Dow Jones industrial average plunged to 587 in December 1974 but wound up at 1259 last December 30. (By early April the average was down to 1149.) In inflation-adjusted terms, however, the Dow actually dropped 33% during the decade. Only by reinvesting all dividends could one have increased a nest egg's real value. The total return—price appreciation plus reinvested dividends—on Standard & Poor's 500-stock index averaged 10.5% a year, beating the 8% average annual rate of inflation.

But some investors would have made a killing by following a simple "contrarian" strategy: holding stocks of companies with the lowest performance standings among the FORTUNE 500 industrial corporations at the end of 1973. Many of these companies subsequently turned around and enjoyed a stock market surge, or were acquired by other companies at inflated prices. The worst investment strategy for the decade: holding the stocks most in vogue in 1973, which were selling at exalted price-earnings multiples. These stocks climbed slowly during the ten years, if at all. (For what analysts think about the FORTUNE 500 stocks today, see Personal Investing.)

To test different investment strategies, FORTUNE turned back the clock and constructed eight portfolios of stocks from the FORTUNE 500 of ten years ago. Each of the portfolios contained 25 companies—the 25 top-ranked companies in four categories and the 25 lowest-ranked companies in the same four categories. The categories were: (1) return on sales in 1973, (2) return on shareholders' equity in 1973, (3) earnings-per-share growth from the end of 1963 through 1973, and (4) total return to investors from 1963 through 1973. Once the portfolios were assembled, FORTUNE measured their performance from January 2, 1974, to December 30, 1983.

The yardstick for measuring which portfo-



A gold mine *for investors, Lockheed stock rose 37-fold in the ten years through 1983. At this California plant, Lockheed workers are building part of a space satellite.*

PHOTOGRAPH BY MARK TUSHMAN

lio gave investors the best ride for their money was the median annual total return of a portfolio's stocks for the ten years. Some stocks didn't trade for the whole period because the companies disappeared in mergers. In those instances, the total return on the shares was measured for the period when the company was traded.

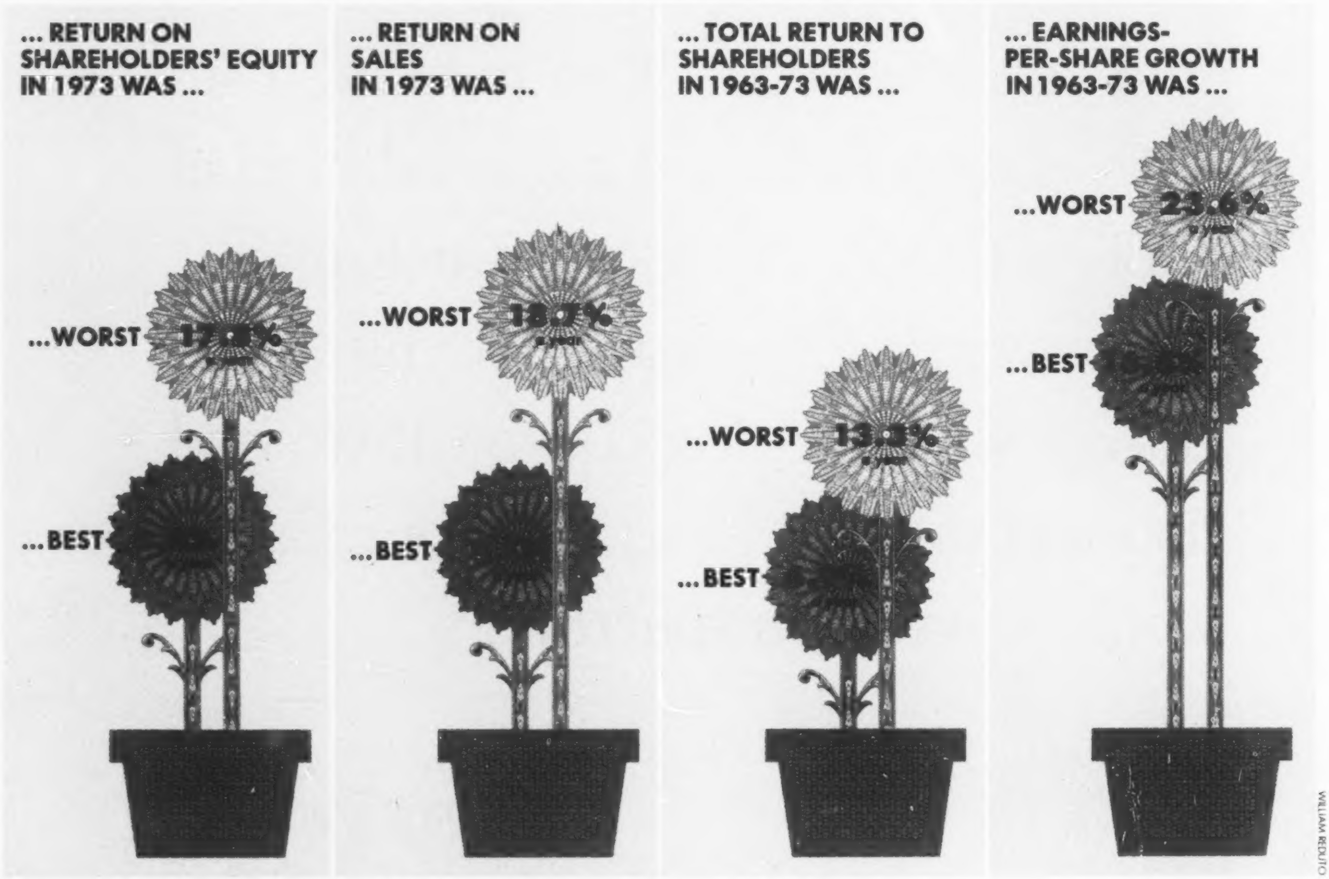
The startling discovery that emerges from this exercise is that in every category, the bottom-ranked companies in 1973 did better for shareholders over the next ten years than the top-ranked companies (see chart). The champion portfolio, by a wide margin, consisted of 25 companies with the lowest earnings-per-share growth from 1963 through 1973. This group's median total return was 23.6% a year—easily beating the 25 companies that had ranked tops in earnings-per-share growth from 1963 through 1973. Another bad-news bunch, companies with the lowest return on sales in 1973, provided good investment news with a median total return of 18.7%. Companies with the lowest return on shareholders' equity in 1973 returned 17.8% a year to investors in the following decade. Companies with the lowest total return to investors from 1963 through 1973 managed a median annual return of 13.3% over the next ten years. All the loser groups handily beat the S&P 500.

What accounts for these topsy-turvy results? One hypothesis is that the top-performing companies of 1973 were overpriced in the stock market at that time and therefore had little room to rise during the following decade. For example, look at the 25 stocks that posted the highest total return to shareholders. Their total return for the next ten years was a mere 6.9% annually. Many companies in this group, paragons of profitability and growth, entered the ten-year period with their stocks far overpriced in what was called a two-tier market.

Institutional buyers, who dominated trading in the early 1970s, concentrated their investments in these companies' stocks,

RESEARCH ASSOCIATE *Paulette Thibault Welles*

TEN-YEAR TOTAL RETURN TO SHAREHOLDERS (1973-83) IN COMPANIES WHOSE ...



WILLIAM REDUTO

How the Worst Companies Paid Off for Shareholders

FORTUNE 500 companies with the best performance rankings ten years ago suffered stunted stock growth over the following decade, while the worst-ranked companies blossomed for investors. FORTUNE looked at the total return—stock price appreciation plus reinvested dividends—for the 25 companies that ranked best and worst by each of the yardsticks above. The percentage figures are the median returns to shareholders for each category. The group with the worst performers in earnings per share from 1963 through 1973 was the biggest winner over the following decade.

known as the Nifty Fifty (or the top tier), while virtually ignoring hundreds of others (the bottom tier). "It was *the* thing in the investment industry to load up on what were called one-decision stocks," recalls William J. Gillard, a vice president of the brokerage firm of Kidder Peabody. "'One decision' meant that you bought them and never did anything else."

The mania for these stocks fed on itself, with price appreciation boosting their total return and making them look even more appealing. The market schism widened, with elite stocks selling at P/E multiples many times those of the pariahs. All this rendered the Nifty Fifty vulnerable to a fall, which began in the summer of 1973. But even by year-end, the starting point for FORTUNE's study, most of these stocks were still priced beyond reason, as FORTUNE observed (see "How the Terrible Two-Tier Market Came to Wall Street," July 1973).

These high-priced stocks are most heavily represented in FORTUNE's portfolio of companies that had the highest total return to investors from 1963 through 1973. Among them is Baxter Travenol Laboratories, a medical products and services company, which at the end of 1973 sold for 51 times earnings. Johnson & Johnson, also in this portfolio, gloried in a P/E of 45, while Schering-Plough, the drug company, had a multiple of 37. The median P/E for the portfolio was 26—the highest of any group—vs. a pathetic 5 for companies that had scored the poorest total returns in the previous decade.

DURING THE ENSUING ten years, many favored companies continued to prosper as Wall Street had anticipated. But as the market shifted back to one tier and the price schism narrowed, their stocks were slowpokes at best. Travenol's P/E, though still above average, shriveled to 15 by the end of 1983, and the stock declined slightly over the decade. Thanks to dividends alone, investors' total return over the ten years was 7.7% a year. Johnson & Johnson's stock, whose multiple also remains above the market's despite a rash of bad news over the past year or so, has been a bigger disappointment; its total return over the decade was a mere 2.8% a year. Schering-Plough's stock fell, and investors suffered a negative annual return of 2.9%. Stocks that had once performed best, in short, were poison for investors.

Why did the previous decade's earnings-per-share scrub team provide such a windfall? The market may have dumped on it excessively in 1973: its median P/E multiple was 5. Several companies, it turned out, were on the verge of turnarounds that would catch investors' notice and pump up their multiples.

No company revived more dramatically

than Lockheed, which pops up in this and two other portfolios of losers. At the beginning of the period studied, a federal loan guarantee had staved off bankruptcy. But, recalls a market analyst, the aerospace company was "flat on its ass—the company was so far down it had no market value." Then the company came roaring back, its stock shooting up during the decade from $1.08 a share to $40. Investors enjoyed a total return of 43.5% a year—the best of any company in FORTUNE's study that's still publicly traded.

The loser portfolios of 1973 are also heavily dotted with companies that got bought up at bloated prices during the decade. No portfolios lost more companies through takeovers than the earnings-per-share laggards and the return-on-sales losers; ten of the 25 in each group were acquired. While mergers often turned out badly for the acquirer (see story on page 262), shareholders in the acquired corporation frequently cleaned up. That happened with Interstate Brands, a baker whose earnings fell 23% a year in the 1963-73 decade. DPF Inc., now Interstate Bakeries, bought most of the company by 1977, and investors who had held the stock since 1973 wound up with a scrumptious total return of 50.4% a year—the highest of any company in the eight portfolios.

The portfolio that placed a close third, 1973's worst actors when it came to return on equity, was sprinkled with another kind of investment that paid off big—a flourishing company suffering a temporary setback. Pitney Bowes, the venerable king of postage meters, decided in 1973 to write off its electronic cash register business. That put the company in the red for the first time in history, and the stock was way off at the end of 1973. An investor willing to overlook Pitney Bowes's woes and buy in would have had a 29.8% yearly return as earnings resumed their climb and the stock emerged from the doghouse.

THE RECORD OF THE 500 over the decade lends support to some respected theories of investing. One is to buy on the bad news—with care. "Where I have made a lot of money," says one successful private investor, "is in a situation where a marvelous business is put under an enormous cloud. But that cloud does not destroy the essence of that marvelous business."

Most investors lack the time and perseverance to pinpoint such companies. For them, the last ten years suggest, the best approach is to scatter their money broadly among out-of-favor companies with low P/Es. Bottom-fishing often turns up a disproportionate number of undervalued companies ripe for takeover or turnaround.

A general rule that cries out from the decade's experience is to avoid companies with stratospheric P/Es. Burton G. Malkiel, dean of the Yale School of Management, likes this rule's flip side: go after P/Es closer to ground level. The only problem, he says, is that if all investors chased low P/E stocks, the strategy would pay off for nobody. A somewhat qualified believer in the efficient market—"I'm a random walker with a crutch," he says—Malkiel figures that no good investing information or idea stays overlooked for long. Even so, a universal swing to low P/Es doesn't seem imminent. Investors who want the current lists of laggards can turn to "Who Did Best and Worst Among the 500" (page 296).

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THE PRINCES OF PRODUCTIVITY

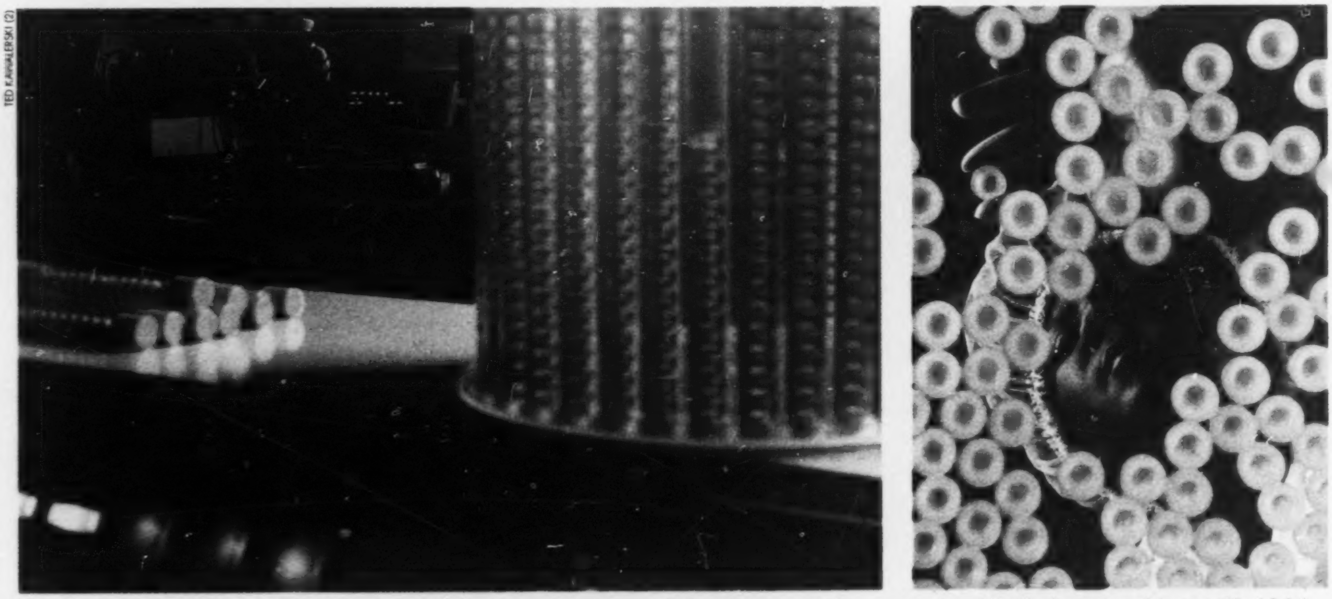
In the crucible of a trying decade, the FORTUNE 500 shrank their work forces and learned how to generate more sales with fewer employees. Will these stripped-down companies become big job providers once again? If good times continue, yes.

by Peter Nulty

THREE RECESSIONS, Asian competition, horrific cost inflation, and sales that grew barely faster than inflation put the FORTUNE 500 under pressure to retrench during the last ten years. Retrench they did, cutting employment 10%, from 15.5 million to 14 million. That was quite a turnabout from the hiring spree of the previous decade, when the largest industrial corporations boosted their work forces by more than half.

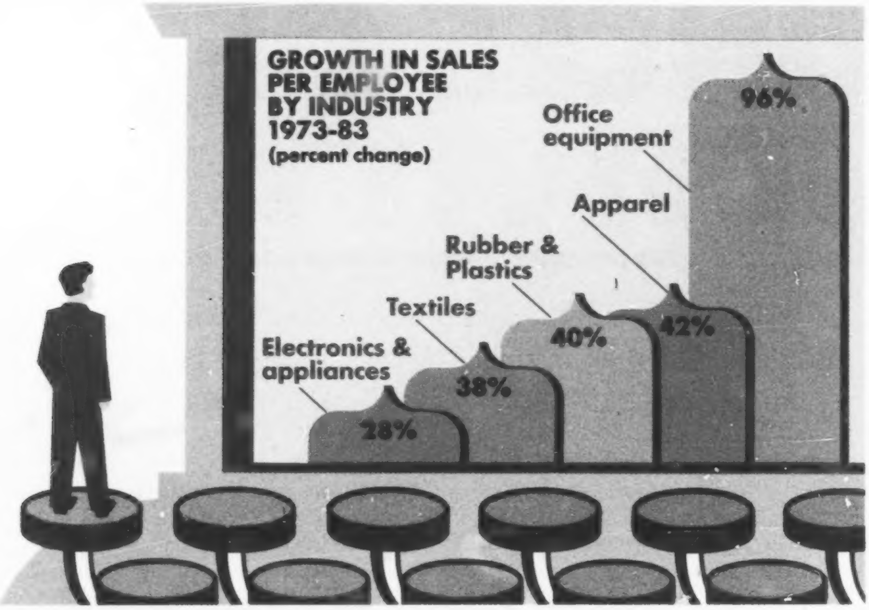
A sign of senescence? Some might conclude that the 500's days as creators of jobs and engines of economic growth are finished, particularly in the rust-bowl industries prominent on FORTUNE's list. They might also argue that government should step in to prop up declining industries or aim incentives at small emerging enterprises that are the main source of new jobs. Such broodings would ignore the bright side: that the 500 became leaner and more competitive over the decade and are therefore in better shape to hire as the economy grows. With orders climbing, many of the most slimmed-down companies are once more taking on workers, and job prospects look good.

One way to judge how lean the 500 have become is to examine what's happened to sales per employee, a rough measure of productivity. Sales per employee rose 11.5% over the last decade, after adjustment for inflation in the prices of manufactured goods. But some of the 27 industries on the 500 did spectacularly better than that. FORTUNE measured the changes in sales per employee, based on the median company in each industry, and adjusted for price increases in each industry's products over the ten years. (The decade's inflation ranged from a low of 43% in the office equipment business to a high of 530% in oil.) The top performers in sales growth per employee were office equipment, apparel, rubber and plastics, textiles, and electronics and appliances. The booby prize goes to oil production. Employment exploded as oil companies stepped up domestic exploration in the wake of OPEC's



With output quadrupled *at its contact-lens machines (left), Bausch & Lomb plans to hire more workers like the inspector of lens molds (right).*

TED KAWALERSKI (2)



ANDERS WENNGREN

Ringing Up More Wares per Worker

Five industries in the FORTUNE *500 set the pace over the past decade in boosting sales per employee. The office equipment and apparel industries added workers; the other three eliminated nearly half a million jobs. Most companies in these industries have lately been adding workers.*

price hikes; inflation-adjusted sales per employee declined by 55%.

The 500 cranked up their sales per employee in several ways. Some lopped off inefficient, labor-intensive product lines or expanded into more capital-intensive businesses. Others turned to outside sources for more parts and services, in some cases creating employment at smaller companies. They also got more out of their workers in the operations they kept.

The winning industry—office equipment, including computers—leaped 96% in median sales per employee. The champ of the office equipment companies on this year's 500 list is Control Data, whose sales per employee zoomed a spectacular 170% over the decade. George Troy, Control Data's efficiency honcho, says hundreds of little economies, rather than a few dramatic changes, accounted for the improvement. The company has adopted quality circles and process flow analysis, a technique for uncovering bottlenecks. Two years ago executives identified 56 steps in the process of delivering computers to customers, eliminated 12 of them, and have saved $800,000 so far. All told, process flow analysis has saved $13.6 million in two years.

RESEARCH ASSOCIATE *Rachael Grossman*

A surprise runner-up is the relatively mature, labor-intensive apparel industry, whose sales per employee climbed 42% over the decade. Palm Beach of Cincinnati is at the top of the rack with a 115% improvement. The company has expanded from men's suits into women's wear, and because women's fashions are short-lived, it contracts most production to other manufacturers in the U.S. and overseas. This adds a lot to sales and little to Palm Beach's work force. In its own plants Palm Beach has installed computer-controlled machines that have boosted the output of workers in the pattern-drawing departments 250%.

CLOSE BEHIND apparel is the rubber and plastics business, with a 40% increase in median sales per employee. Plastics are showing more bounce in productivity than rubber. The pacesetter is Dorsey Corp., with a 60% improvement achieved mainly by getting out of glass bottle manufacturing and into less labor-intensive plastic bottle making. The top performer among old-line rubber companies is B.F. Goodrich, whose sales per employee rose 51% in the ten years through 1983. Goodrich has sold off nine sizable labor-intensive operations, including a rubber plantation in Liberia and a tire plant in Holland, and has streamlined its tire distribution system. Goodrich has also pushed more heavily into chemicals, where sales per employee run more than twice the company average.

The textile industry has made strides by doing better what it has always done. Thanks to improvements in one of the industrial revolution's founding technologies, the automatic loom, the industry is weaving faster than ever. Median sales per employee in textiles grew 38% in the last decade, led by West Point-Pepperell with a 44% rise. A newfangled loom gets credit for most of the gains. Threaded bullets shoot back and forth, eliminating the traditional shuttle and speeding production as much as 200%. One worker can tend 30 of the new looms, compared with ten of the old variety.

Top honors in the electronics and appliances industry go to National Semiconductor, the chipmaker, which has slashed costs by reducing the number of defective chips from 8,000 per million to 150 per million. It has led the chip industry's switch to producing semiconductors more efficiently on silicon wafers five inches in diameter rather than four inches. Five-inch wafers hold up to 15,000 chips, 60% more than four-inch wafers. Through these and other steps, the company lifted sales per employee 94% in the decade vs. 28% for the industry.

Even in industries of mediocre performance, some exemplary companies shine like beacons. The measuring, scientific, and photographic equipment industry, for example, managed only an 11% increase in sales per employee over the ten years. But a pacesetter in the group was Bausch & Lomb, which has bet heavily on the highly automated technology of spin-casting soft contact lenses. Bausch & Lomb claims to have the lowest production cost in the industry by far. The company has also exited from the labor-intensive eyeglass business. Bausch & Lomb's sales per employee leaped 65% in the last ten years.

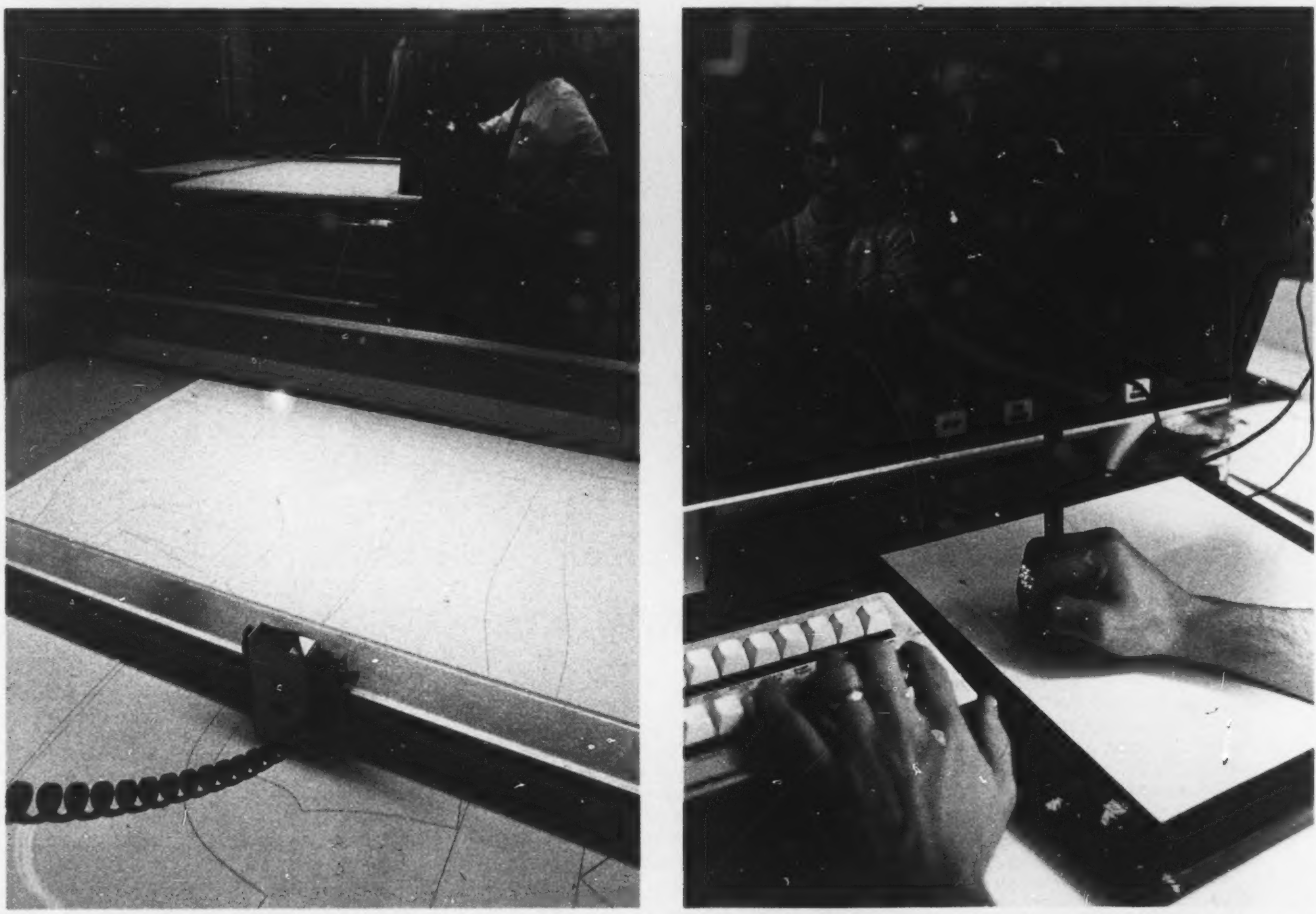
The auto and automotive parts industry has also had its standout performers. Chrysler was the top achiever with an 89% gain, far above the lackluster 5% improvement for the whole group. Chrysler today has only one-third as many employees as ten years ago. Most cuts came in the three years after 1979, when the company was near bankruptcy. Annual car production per worker has jumped from ten to 15. George Butts, Chrysler's vice president of quality and productivity, says much of the gain derives from improving the quality of Chrysler's cars, which results in less waste in production.

THE RUNNER-UP in the auto industry is Echlin, a producer of electronic and other parts for cars and trucks. Echlin, which has improved sales per employee 69%, has developed a $250,000 machine for assembling electronic circuit boards. The seven people who operate it turn out as many parts as 144 people used to. Echlin improved its showing another way, by acquiring a parts distribution subsidiary from Borg-Warner. This has added about $70 million a year to sales but only 900 people to the personnel rolls.

Some companies are scoring such productivity gains that they don't need any more hands these days. Control Data expects to double its volume in 1984 with the same work force, and Goodrich isn't hiring. Bausch & Lomb, on the other hand, expects to add 200 workers during the next few years. West Point-Pepperell has slowly been adding to its rolls. Palm Beach has been hiring for the past six months and expects to continue. Booming Chrysler has added 16,000 workers since January 1983 and expects to keep hiring. National Semiconductor, straining to keep up with torrid chip sales, has boosted its work force 25% worldwide in the past 12 months. By the end of this year, it says, employment will be up another 25%.

Cost-cutting is a sign of vigor and survival power, and the 500 appear to have plenty of both. During the next ten years they will go right on hiring, especially if the economy grows at a healthy clip, corporate profits strengthen, and a declining dollar enables U.S. manufacturers to win back markets lost at home and abroad. Given these prospects, government programs to prop up companies in struggling industries shouldn't be necessary. They'd slow the movement of workers from declining to expanding industries. They'd also take the pressure off ailing enterprises to sharpen their mettle.

U.S. manufacturing employment is already up 7.3% from the pit of the 1982 recession, to 19.6 million in March. Though some economists consider the forecast overly bullish, the Bureau of Labor Statistics predicts that manufacturing, instead of lagging behind the economy as it has in the past ten years, will keep pace and add as many as three million jobs by 1990. Industry's challenge, as it hires, will be to stay muscular.



RICHARD HOWARD (2)

Productivity jumped 250% *when Palm Beach, the clothing manufacturer, installed computer-controlled marker machines like the one above. A computer instructs a mechanical plotter to draw patterns for suit parts on paper, adjusting automatically for different size suits. At one of the computer's work stations (right), draftsmen direct the placement of drawings on the paper to minimize the amount of material needed.*

[500]

THE DECADE'S WORST MERGERS

When Wall Street analysts and acquisition specialists are asked to name the biggest disasters, they point to seven. Bad luck marred some combinations; overborrowing and underanalyzing crippled others. Oil companies were atrocious acquirers. ■ *by Anne B. Fisher*

A bleak symbol of an ill-fated merger, *Anaconda's copper mine in Butte, Montana, was closed last year. Atlantic Richfield paid $700 million for*

A RECORD-BREAKING SUM, about $398 billion, was spent by U.S. corporations in the last decade on mergers and acquisitions. In all, some 23,000 deals were sealed, including 82 in which FORTUNE 500 companies were swallowed up. This has made good reading—all those raiders and white knights, the secret phone calls, the frenetic shuttling back and forth. But are mergers good for much else?

Of course. For one thing, there really can be synergy, that magical chemistry that causes one plus one to add up to three. It can take many forms: two companies combined produce a better product or service than anything they could turn out separately, or find a fit that makes the two operations more efficient or productive. (For a few such mergers, see page 270.) But some combinations don't seem to benefit anyone except the shareholders who sell out at puffed-up prices; they leave investors in the acquiring company puzzling over what hit them.

Anaconda, which no longer produces copper.

For a look at the worst big acquisitions of the decade and why they went wrong, FORTUNE surveyed more than three dozen merger and acquisition specialists and security analysts. When asked which mergers were worst for the acquiring company's shareholders, the financial people kept coming up with the seven in the table on page 266. Four acquirers, all oil companies, were FORTUNE 500 industrial corporations: Exxon, Standard Oil (Ohio), Atlantic Richfield, and Mobil. The three other acquirers hail from the FORTUNE Service 500 list of the largest U.S. nonindustrial companies. They include two, Baldwin-United and Wickes Cos., that have filed for bankruptcy since their mergers, and a third, Pan American World Airways, that has barely escaped that fate.

Five of the seven acquired companies are money losers. The two exceptions, Marcor (acquired by Mobil) and Gamble-Skogmo (Wickes), have been unprofitable for several years but were helped into the black last year by the surge in consumer spending. FORTUNE estimates that in five cases—all those for which calculations could be made—the earnings per share of the acquiring company would be higher if management had skipped the merger and invested the purchase price in its own stock. Some acquisitions were afflicted with bad luck and high interest rates, and the tooth-rattling recession of 1981 didn't help. But lessons from the seven combinations suggest three rules: (1) think twice before investing hard-earned cash in unfamiliar businesses, (2) beware of overborrowing, and (3) don't be seduced by the synergy argument without making a thorough analysis.

The oil leviathans' blunders, about which their executives now decline to comment, resulted mostly from violating rule No. 1. Fearful of federal regulation of their industry and laden with cash, oil executives itched to diversify. Two companies, Atlantic Richfield and Standard Oil (Ohio), made the mistake of branching out into copper. The business involves two things oilmen know something about: exploration and getting resources out of the ground. But the similarity ends when it comes to prices. Until early 1983 oil prices were mostly a one-way street, uphill, while the copper market is a roller coaster. When Atlantic Richfield bought Anaconda in 1977, the price of copper was 66 cents a pound and the mining company was barely profitable. But that only meant Arco could snatch it up at less than book value, glean tax benefits to boot, and invest a few million to help develop Anaconda's mines. Sohio, in buying Kennecott in 1981, had a similar scheme in mind. By that time copper's price had risen to 85 cents a pound, but Kennecott's ore was so expensive to mine that it was losing money.

What neither oil company foresaw was how far copper's price could fall. The 1982 recession crushed demand for the metal, a staple in the production of houses and cars. But supply, bloated by African and South American output, kept right on rising. Last year the price fell to 65 cents a pound, its lowest since World War II. Both Arco and Sohio have plowed hundreds of millions of dollars, on top of the purchase prices, into their besieged acquirees, and neither parent has yet produced a penny of profit. Had Arco stayed out of the copper pits, FORTUNE estimates its 1983 earnings per share would be almost 25% higher than they were in 1983. Kennecott's losses cost Sohio even more—$1.87 a share on earnings of $6.14.

Mobil's dry hole was retailing. Marcor, the $4-billion-a-year parent of Montgomery Ward and Container Corp. of America, attracted Mobil ten years ago. The steady profitability of Ward's credit operation was one enticement, but rising interest rates in the 1970s clobbered that business. Like other retailers, Montgomery Ward was borrowing money at higher rates than credit customers were paying, and since 1980 Mobil has spent $609 million to make up the difference. In 1983 Montgomery Ward showed earnings for the first time since 1979, but Mobil shareholders have scant cause for celebration. FORTUNE estimates the company's 1983 earnings are lower by 39% than they would have been if Mobil had eschewed shopping malls and stuck to the oil patch.

EXXON'S BLUNDER with Reliance Electric is especially embarrassing since no one could construct a bad-luck alibi to explain it. At the time, some thought the purchase was inspired. Exxon believed it had a device in its labs that would raise the efficiency of most electric motors enough to cut a million barrels per day from U.S. oil consumption by 1990. After oil prices nearly doubled in 1979, the device, called an alternating-current synthesizer, looked as promising as a Prudhoe Bay gusher. So Exxon forked over $1.2 billion for Reliance—twice the electrical equipment maker's market value—believing it could successfully mass-produce the gadget.

The deal had all the earmarks of synergy at its best. But Exxon overlooked a few essential details. For one thing, nobody knew, or tried very hard to find out, whether Reliance could manufacture the synthesizer cheaply enough to make a profit. Other companies had developed similar devices, all too expensive to be marketed on the scale the

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PHOTOGRAPH BY LAURANCE B. AIUPPY

oilmen envisioned. Nor was cost the only unknown. While Exxon was negotiating to buy the company, Reliance purchased Federal Pacific Electric Co., an electrical manufacturer that turned out to have been cheating for years on Underwriters' Laboratories tests of its circuit breakers.

The magical motor controller, too costly to produce, was scrapped in 1981. A nightmarish tangle of lawsuits and product recalls at Federal Pacific has meanwhile cost Reliance—and by extension Exxon—tens of millions. Reliance's net losses, $6 million in 1980, were $58 million in 1983. By FORTUNE's estimates, the acquisition knocked Exxon's per-share earnings down by 39 cents—about 6% below where they might have been—last year. Only its huge size saved Exxon from greater suffering.

Another merger, Pan Am's takeover of National Airlines in early 1980, was envisioned as synergistic because it held the promise of better service for air travelers. The two airlines served many of the same airports, but Pan Am had almost no domestic routes and National had few foreign ones. If a passenger wanted to fly from Houston to Paris via New York, for instance, he had the hassle of changing terminals at Kennedy Airport. A merger, Pan Am Chairman William Seawell reasoned, would enable Pan Am to take a passenger the whole distance—and not incidentally pocket the whole fare. Pan Am had hankered after domestic routes since 1946, but the Civil Aeronautics Board had turned down every request. With airline deregulation taking off, the CAB approved Pan Am's bid for National.

The irony is that under deregulation, Pan Am could have got domestic routes without the turbulence that came with National. The trouble started in mid-1980, when Pan Am's employees balked at sharing a new labor contract with National's. Ill feeling among the workers sent morale, and service, skidding. By mid-1981, admits a Pan Am executive, "we had gained a bad reputation in the marketplace. And once you make consumers mad enough, it's hard to get them back." That's especially true in a recession.

The worst part was that Pan Am's troubles so distracted management that it didn't reshuffle domestic routes to feed the overseas flights—the whole idea behind the merger in the first place. Chairman Edward Acker, who came aboard after the merger, finally arranged the feeder traffic in mid-1982. Pan Am's domestic and international flights now connect, but it hasn't shown a full year's net profit since the merger.

Wickes's decision to buy Gamble-Skogmo was also based on a sensible-sounding premise. Wickes was the largest U.S. retailer of lumber and building supplies, with annual sales of $2 billion. Bothered by the cyclicality of the business, then Chairman E. M. McNeely set out to merge with a retailer whose sales were less dependent on housing. Homebuilding was in a sharp decline in

ACQUIRING COMPANY (Date of acquisition) ACQUIRED COMPANY	PRICE	BUSINESS	ACQUIRER'S 1983 AFTER-TAX PROFITS ACQUIRED COMPANY'S CONTRIBUTION (Est.)	ACQUIRER'S '83 EARNINGS PER SHARE ACTUAL	ACQUIRER'S '83 EARNINGS PER SHARE IF ACQUISITION HADN'T OCCURRED (Est.)
Mobil (1974, 1976) **Marcor**	$1.86 billion in cash, notes, and common stock	Oil and gas Retail stores, paper packaging	$1.5 billion $41 million	$3.70	$6.12
Sohio (1981) **Kennecott**	$1.77 billion in cash	Oil and gas Copper and metal products	$1.51 billion $136 million loss	$6.14	$8.01
Exxon (1979) **Reliance Electric**	$1.24 billion in cash	Oil and gas Electric equipment	$4.98 billion $58 million loss	$5.78	$6.17
Baldwin-United (1982) **MGIC**	$1.16 billion in cash	Financial services Insurance and real estate	$673 million loss[1] $148 million loss[1]	$32.28 loss[1]	Not calculable
Atlantic Richfield (1977) **Anaconda**	$700 million in cash and common stock	Oil and gas Copper and minerals	$1.55 billion $155 million loss	$6.03	$7.51
Pan Am (1980) **National**	$400 million in cash	International airline Domestic airline	$51 million loss Not calculable	$0.58 loss	Not calculable
Wickes (1980) **Gamble-Skogmo**	$193 million in cash and common stock	Retailing and manufacturing Department and specialty stores	$25 million $5 million	$1.72	$10.86

[1] Earnings through third quarter

Seven Unlucky Mergers: Suppose They Hadn't Happened

To check out the mergers Wall Streeters call the decade's worst, FORTUNE estimated what each acquiring company would have earned in 1983 had the deals above not occurred. The exercise assumes that the dollar value of each acquisition had instead been used by the acquirer at the time to buy its own stock at the market price. This would have reduced the company's outstanding shares, increasing per-share earnings. The calculation also eliminates from the acquirer's books profits or losses of the acquired company. In every case calculated, the acquiring company's earnings would have been higher if the deal hadn't taken place. Hypothetical earnings for Baldwin-United can't be figured this way because the market value of Baldwin's stock was $601 million, far less than it spent for MGIC. What Pan Am would have earned without National can't be estimated because the two route structures have been merged. The dates given for Mobil's acquisition of Marcor reflect a two-stage purchase.

1980 when McNeely purchased Gamble-Skogmo, also a $2-billion-a-year retailer, which owned toy stores, supermarkets, drugstores, and a couple of clothing chains. The problem was that Wickes couldn't afford the deal. Gamble-Skogmo was nearly $1 billion in debt, and Wickes not only took that on, but also borrowed $125 million to finance the merger.

McNeely apparently hoped to sell off some of Gamble-Skogmo's stores to help pay down the debt, but in the 1981 recession he found no takers. The recession also squashed sales. By late 1981 cash was so tight that hundreds of suppliers stopped delivering goods to both Wickes and Gamble-Skogmo stores. By the time McNeely took early retirement in March 1982, Wickes had lost $400 million in 15 months and was barely meeting its payroll, let alone interest payments. The company went into Chapter 11 a month later. Wickes now has an agreement with creditors that should take it out of the woods by next fall, but the stock, which sold as high as $17 a share in 1981, was recently trading at $4.

Shareholders weren't the only investors hurt by Baldwin-United Corp.'s stumble into insolvency. While the company's stock has plunged from its high of $50 a share in 1982 to $2 recently, thousands of middle-income savers who paid an average of $23,000 each for Baldwin's hot product, the single-premium deferred annuity, have no guarantee they'll ever see all their principal again.

Former President Morley Thompson's 1981 purchase of Mortgage Guaranty Insurance Corp., the largest home-mortgage insurer in the U.S., brought the roof down. Baldwin ran up nearly $1 billion in short-term debt, mostly to finance the $1.2-billion purchase—and then couldn't pay it. It is small comfort that creditors and regulators picking over Baldwin-United's carcass see MGIC as the meatiest morsel there.

If all these tales of mergers run amok give acquisitive managers pause, they should. Michael Seely, president of Investor Access Corp., a New York consulting firm that studies mergers, contends that in the past decade only one-third of all mergers have enriched the acquirer's shareholders, one-third have been a wash, and one-third have ended up costing investors money—sometimes lots of it. While it may be fun to read about chief executives with the moxie to make big bets, Seely's analysis suggests that the fainthearted can do just as well by investors.

MERGERS THAT WORKED

■ *A sampling of mergers in the past decade that produced benefits the merged companies could not have attained separately:*

▶ **LTV/Lykes.** When this merger was announced in 1977, steel industry analysts were aghast. Lykes, a New Orleans holding company that owned Youngstown Sheet & Tube, seemed headed for bankruptcy. Jones & Laughlin, LTV's steelmaking unit, made a small profit in 1977, but LTV as a whole lost $53 million. Yet LTV paid $188 million for Lykes—and assumed its $659 million in debt. Declared one Wall Street observer: "This isn't a merger, it's a suicide pact."

What the doubters didn't see—and J&L President Thomas Graham, who is now at U.S. Steel, did—was that by combining some facilities and closing less efficient ones, J&L could pare shipping, labor, and other costs. In 1979, just after it absorbed Youngstown, J&L needed 6.9 man-hours to turn out a ton of steel. By year-end 1983, the figure had been whittled to 4.5, below the industry's five man-hour average. J&L has been losing money again lately—$200 million last year. But analysts think that without the merger's efficiencies the company would be in deeper trouble. They also note that Continental Emsco, a Lykes unit that makes oil drilling equipment, made enough money in the three years following the acquisition to pay back LTV's entire purchase price. LTV, now buying Republic Steel, hopes synergy strikes twice.

▶ **United Technologies/Otis Elevator and Carrier.** It wasn't clear what United Technologies Chairman Harry Gray had in mind when he paid $398 million for Otis in 1976 and $1 billion for Carrier three years later. But in 1980, when Gray added Mostek to his collection, it all began to make sense. A division of United Technologies called Building Systems Co. now links the acquirees together. Using microprocessor technology developed by Mostek, Building Systems designs "intelligent" buildings for real-estate developers. Computers control the air conditioning, heating, elevators, communications, security, and other functions in high-rise buildings. Set up in 1982, Building Systems had sales of $147 million last year. The building group—including Otis, Carrier, Building Systems, and Essex, a cable and wire unit—now accounts for one-third of United Technologies' sales ($14.7 billion last year) and profits ($509 million).

▶ **American Express/Shearson Loeb Rhoades.** American Express could hardly have picked a better time to buy a brokerage house: Shearson's profits jumped 41% to $175 million in last year's bull market. Results like that make Shearson's 1981 purchase price of $903 million, which some analysts then thought too high, look quite reasonable. But observers applaud the merger for other reasons too. It gives Shearson's 4,000 brokers access to American Express's 17 million cardholders. Shearson contributed savvy managers, including Sanford Weill, now president of American Express. Notes Rodney Schwartz, a security analyst at Paine Webber, "American Express bought a different corporate culture. Shearson people are hungry, driven, and strong on the nuts and bolts of making systems work. American Express needed that."

▶ **Burlington Northern/St. Louis-San Francisco Railway.** "Frisco," as it's called, was a tiny regional railroad operating on a shoestring when Burlington Northern bought it in 1980 for a measly $138 million. The merger has worked better than many larger headline grabbers, mainly because Burlington put Frisco Chairman Richard Grayson in charge of all its railroad operations. He consolidated routes, updated equipment, and shed 15,000 workers. In the process, Burlington's operating ratio—expenses as a proportion of revenues, a measure of railroad efficiency—has dropped from .88 to .82. The industry average: .90.

THE 500

THE FORTUNE DIRECTORY OF THE LARGEST U.S. INDUSTRIAL CORPORATIONS

For the largest U.S. industrial corporations the big news was profits—they outclimbed inflation for the first time in four years. But the recovery was lopsided. Automakers won big, while several other industries slumped. Sixty of the 500 lost money—a record.

THE RECOVERY played favorites with the FORTUNE 500. While the auto industry soared, makers of industrial and farm equipment remained in a deep slump. The oil business continued to lag, and steelmakers showed few signs of getting well. Total profits for 1983 were up 12.1% (or 8.6% in real terms, after adjusting for inflation). That was the first real profit increase since 1979. Were it not for the carmakers' extraordinary comeback, real profits would have dropped for the fourth year running.

Sales rose by less than 1%. Sixty companies lost money, the most since FORTUNE began the 500 directory 30 years ago. Profits were down for 160 other companies. Return on shareholders' equity wasn't so hot either; the median return, 10.6%, dropped slightly from 1982.

With real personal incomes up and interest rates down, domestic car sales rose 18% and the industry basked in a 119% increase in profits. By contrast, profits of the industrial and farm equipment group dropped 15.8%, the largest decline of any industry on the list. This group included some long-running losers. International Harvester, for example, was in the red for the fourth straight year. The oil industry, still sloshing through a worldwide oil glut, had the second-biggest drop in profitability, 9.1%.

Exxon managed to hold its position as the world's largest industrial company, but its lead over General Motors continued to slip. Exxon's sales declined by $8.6 billion, to $88.6 billion, after having dropped by $11 billion in 1982. GM's sales zoomed an astonishing $14.6 billion, to $74.6 billion. That widened GM's lead over No. 3 Mobil to $20 billion, from $80 million last year. Ford's sales increased $7.4 billion, and it replaced Texaco in the No. 4 slot. Texaco fell out of the top five for the first time since 1974, as International Business Machines moved up from sixth. General Electric climbed back to No. 10 after a two-year hiatus.

The once beleaguered auto industry had a perfectly marvelous year. Except for struggling American Motors, which has lost money for four years in a row, everybody raked in profits. Chrysler's net catapulted 312%. Ford, the third-largest money loser last year, turned a profit of $1.9 billion; GM earned $3.7 billion. Tiremakers went along for the ride. Firestone Tire & Rubber had a 1,750% increase in profits, while B.F. Goodrich and General Tire also scored impressive gains.

Other winners were scattered across the list. IBM's $5.5-billion profit was tops, followed by Exxon's nearly $5 billion. Aluminum Co. of America; Northrop, a major contractor to the Air Force; American Hoechst, a chemical producer; and Jim Walter Corp., a big homebuilder, all bounced back from a difficult year to produce profit increases of more than 1,000%.

Though returns on equity were generally lackluster, there were a few exceptions. The highest returns were in publishing and pharmaceuticals. The highest single return of any company was Chrysler's 51.1%. Hard times had shrunk Chrysler's equity base; it was $1.1 billion last year (and less than zero in 1982). Return on equity is one of 14 performance measures FORTUNE applies to the 500 companies. A new table introduced this year ranks companies according to these measures within industry groups.

Newcomers to the list ranged from low-tech Coachmen Industries (No. 463), a maker of recreational vehicles, to such Silicon Valley stalwarts as ROLM (No. 454), a producer of telecommunications equipment, and Tandem Computers, whose sales of $418 million gave it the No. 500 position.

Twenty-seven companies left the list. Greyhound moved to the FORTUNE Service 500 directory (to be published in the June 11 issue); after selling the Armour Food division, Greyhound no longer derived more than 50% of its sales from manufacturing or mining, the criterion FORTUNE uses to determine eligibility for the industrial directory. Barnes Group, GATX, and Foster Wheeler dropped off for the same reason. Thirteen companies fell off the list because of declining sales. Two companies, Dan River and Cone Mills, went private. McDermott International reincorporated in Panama. Six disappeared because of mergers.

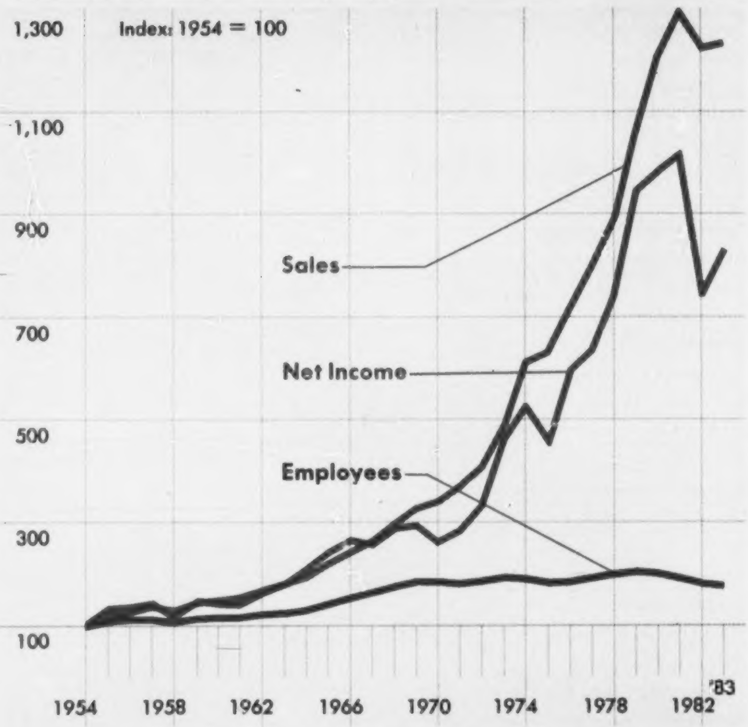
On the losing side of this lopsided recovery, U.S. Steel had the dubious honor of being No. 1. Its loss of $1.2 billion was more than triple its loss for 1982. Armco was next with a loss of $673 million, followed by most of the rest of the steel industry. Cincinnati Milacron lost $10 million, reflecting the continued weakness of the machine tool industry despite the capital goods recovery. Phelps Dodge, AMAX, and several other mining companies lost money. Texas Instruments posted a $145-million loss as one of the early shakees in the long-awaited personal computer shakeout.

The biggest sales increase came from James River Corp.—114.3%. The forest products company capped a 15-year buying spree with the purchase of the Dixie/Northern assets (Dixie cups, other paper goods) of American Can, and vaulted from No. 447 in 1981 to No. 209 this year. Coachmen Industries was second with 80.4%. Apple Computer had the third-largest increase, 68.6%. The company moved 112 notches higher on the list to No. 299.

In 1983's bull market the 500's stocks did well. The investor who bought shares in the 500's median performer—this year Vulcan Materials, No. 339—on December 31, 1982, and cashed them in exactly one year later would have realized a total return—price appreciation plus dividends—of 30.21%; the median increase was 21.22% last year. Beverage and auto stocks were the best places to invest in 1983, yielding median total returns of 48.63% and 42.75%. The best company to have owned this year was auto parts supplier A.O. Smith, which had a one-year total return to investors of 187.68%. Over the longer haul, Coachmen Industries had the highest ten-year average annual total return, 49.19%.

— Joan Campo

THE 500 THROUGH THE YEARS



PERFORMANCE OF THE 500

	1983	1982
Sales (billions)	$1,686.7	$1,672.2
Change in sales	.87%	–5.7%
Profits (billions)	$68.8	$61.4
Change in profits	12.1%	–27.1%
Assets (billions)	$1,353.9	$1,308.7
Number of sales increases	322	200
Number of profit increases	329	189
Number of money losers	60	58
Median return on sales	3.8%	3.6%
Median return on equity	10.6%	10.9%
Median total return to investors	30.21%	21.22%
Number of employees (millions)	14.1	14.4

Tracking the Uneven Recovery

Shadows crept in among the bright spots in this mottled recovery year. Profits rose faster than inflation for the first time since 1979—on the strength of lofty earnings for carmakers—but 310,000 jobs disappeared. Sales, after dropping in 1982, turned up, but only slightly. The number of companies boosting their sales and profits climbed sharply from last year, but more companies lost money. The median return on equity edged down too. The stock market was the only source of unrelenting sunshine. The 500 companies' median total return to investors climbed to 30.21%.

THE 500 LARGEST U.S. INDUSTRIAL CORPORATIONS, RANKED BY SALES

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
1	1	**Exxon** (New York)	88,561,134*	62,962,990	1	4,977,957	2	29,443,095	1
2	2	**General Motors** (Detroit)	74,581,600	45,694,500	2	3,730,200	3	20,766,600	3
3	3	**Mobil** (New York)	54,607,000*	35,072,000	4	1,503,000	11	13,952,000	6
4	5	**Ford Motor** (Dearborn, Mich.)	44,454,600	23,868,900	9	1,866,900	6	7,545,300	14
5	6	**International Business Machines** (Armonk, N.Y.)	40,180,000	37,243,000	3	5,485,000	1	23,219,000	2
6	4	**Texaco** (Harrison, N.Y.)	40,068,000	27,199,000	5	1,233,000	12	14,726,000	4
7	8	**E.I. du Pont de Nemours** (Wilmington, Del.)	35,378,000	24,432,000	7	1,127,000	13	11,472,000	8
8	10	**Standard Oil (Indiana)** (Chicago)	27,635,000*	25,805,000	6	1,868,000	5	12,440,000	7
9	7	**Standard Oil of California** (San Francisco)	27,342,000	24,010,000	8	1,590,000	8	14,106,000	5
10	11	**General Electric** (Fairfield, Conn.)	26,797,000	23,288,000	10	2,024,000	4	11,270,000	10
11	9	**Gulf Oil** (Pittsburgh)	26,581,000*	20,964,000	13	978,000	14	10,128,000	12
12	12	**Atlantic Richfield** (Los Angeles)	25,147,036	23,282,307	11	1,547,875	9	10,888,138	11
13	13	**Shell Oil** (Houston)	19,678,000	22,169,000	12	1,633,000	7	11,359,000	9
14	15	**Occidental Petroleum** (Los Angeles)	19,115,700	11,775,400	21	566,700**	25	2,640,900	50
15	14	**U.S. Steel** (Pittsburgh)	16,869,000	19,314,000	14	(1,161,000)	489	5,355,000	20
16	17	**Phillips Petroleum** (Bartlesville, Okla.)	15,249,000	13,094,000	18	721,000	18	6,149,000	16
17	18	**Sun** (Radnor, Pa.)	14,730,000	12,466,000	19	453,000	34	5,236,000	21
18	20	**United Technologies** (Hartford)	14,669,265	8,720,059	32	509,173	28	3,783,755	31
19	19	**Tenneco** (Houston)	14,353,000	17,994,000	15	716,000	19	5,822,000	18
20	16	**ITT** (New York)[1]	14,155,408	13,966,744	17	674,510	21	6,106,084	17
21	29	**Chrysler** (Highland Park, Mich.)	13,240,399	6,772,300	38	700,900**	20	1,143,058	126
22	23	**Procter & Gamble** (Cincinnati)[2]	12,452,000	8,135,000	34	866,000	17	4,601,000	27
23	25	**R.J. Reynolds Industries** (Winston-Salem, N.C.)[3]	11,957,000¶*	9,874,000	26	881,000	16	5,223,000	22
24	24	**Getty Oil** (Los Angeles)	11,600,024	10,385,050	23	494,314	29	5,402,707	19
25	21	**Standard Oil (Ohio)** (Cleveland)	11,599,000	16,362,000	16	1,512,000	10	8,094,000	13
26	22	**AT&T Technologies** (New York)[4]	11,154,700	9,087,500	30	50,700	229	4,621,300	26
27	34	**Boeing** (Seattle)	11,129,000	7,471,000	36	355,000	44	3,038,000	40
28	27	**Dow Chemical** (Midland, Mich.)	10,951,000	11,981,000	20	334,000**	47	5,047,000	24
29	49	**Allied** (Morris Township, N.J.)[5]	10,351,000	7,647,000	35	98,000	145	2,747,000	46
30	26	**Eastman Kodak** (Rochester, N.Y.)	10,170,000	10,928,000	22	565,000	26	7,520,000	15
31	28	**Unocal** (Los Angeles)[6]	10,065,600	9,228,000	29	625,900	24	5,180,100	23
32	37	**Goodyear Tire & Rubber** (Akron, Ohio)	9,735,800	5,985,500	44	305,500**	49	3,016,200	42
33	30	**Dart & Kraft** (Northbrook, Ill.)	9,714,000	5,418,100	49	435,100	38	2,922,700	43
34	31	**Westinghouse Electric** (Pittsburgh)	9,532,600	8,569,000	33	449,000	36	3,410,300	35
35	32	**Philip Morris** (New York)	9,465,600*	9,667,000	27	903,500	15	4,033,700	30
36	35	**Beatrice Foods** (Chicago)[8]	9,188,200	4,731,700	58	43,200	252	2,214,800	60
37	33	**Union Carbide** (Danbury, Conn.)	9,001,100	10,295,300	24	79,200‡	168	4,928,800	25
38	38	**Xerox** (Stamford, Conn.)	8,463,500	9,296,900	28	466,400	32	4,222,400	28
39	40	**Amerada Hess** (New York)	8,368,946	6,217,098	42	205,347	72	2,525,663	52
40	53	**Union Pacific** (New York)	8,352,585	10,218,416	25	296,886	53	4,056,481	29
41	39	**General Foods** (White Plains, N.Y.)[9]	8,256,433	4,309,598	70	288,525	54	1,872,120	75
42	43	**McDonnell Douglas** (St. Louis)	8,111,000	4,791,800	57	274,900	59	2,067,900	65
43	42	**Rockwell International** (Pittsburgh)[10]	8,097,900	5,231,100	52	389,100	43	2,367,300	56
44	41	**PepsiCo** (Purchase, N.Y.)	7,895,936	4,638,340	61	284,111	57	1,794,158	79
45	36	**Ashland Oil** (Russell, Ky.)[10]	7,852,299	4,107,839	74	102,833	137	1,084,824	140
46	46	**General Dynamics** (St. Louis)	7,146,300	2,836,200	112	286,600	56	1,260,600	109
47	44	**Minnesota Mining & Manufacturing** (St. Paul)	7,039,000	5,760,000	47	667,000	22	3,698,000	32
48	48	**Coca-Cola** (Atlanta)	6,990,992	5,227,822	53	558,787	27	2,920,756	44
49	51	**Consolidated Foods** (Chicago)[2]	6,572,298	2,616,340	127	171,255	91	935,016	164
50	56	**Lockheed** (Burbank, Calif.)	6,490,300	2,829,600	114	262,800	60	826,200	183

THE DEFINITIONS AND CONCEPTS UNDERLYING THE FIGURES IN THIS DIRECTORY ARE EXPLAINED ON PAGE 322.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
156,000†	9	5.6	135	7.8§	324	5.78	4.82	2.72	7.81	195	36.05	185	12.39	285	29
691,000†	1	5.0	171	18.0	75	11.84	3.09	8.34	3.57	266	23.73	274	12.75	275	40
178,100	7	2.8	330	10.8	241	3.70	3.31	2.08	5.90	231	22.39	288	15.17	221	29
380,077†	2	4.2	219	24.7	16	10.29	(3.64)	4.87	7.77	199	65.43	70	14.22	237	40
369,545	3	13.7	9	23.6	23	9.04	7.39	2.70	12.85	98	30.61	227	11.30	306	44
54,683	62	3.1	302	8.4	307	4.80	4.92	4.75	0.10	325	24.90	267	10.21	322	29
159,231	8	3.2	290	9.8	269	4.70	3.75	4.01	1.59	302	51.92	110	5.39	390	28
56,734	55	6.8	90	15.0	128	6.39	6.25	1.83	13.30	90	34.72	196	11.90	295	29
40,091	92	5.8	123	11.3	229	4.65	4.03	2.48	6.47	220	15.70	329	13.53	253	29
340,000†	4	7.6	70	18.0	76	4.45	4.00	1.60	10.74	127	27.38	245	10.91	314	36
42,700	83	3.7	253	9.7	274	5.83	4.98	4.06	3.68	262	54.54	102	13.97	243	29
49,693	70	6.2	114	14.2	154	6.03	6.61	1.19	17.62	43	8.69	374	8.70	348	29
35,185	113	8.3	52	14.4	151	5.28	5.19	1.23	15.64	61	13.11	346	13.79	247	29
41,369	87	3.0	310	7.8§	325	2.03**	0.69	1.05	6.81	216	38.61	172	19.00	153	10
98,722†	19	—		—		(12.07)	(3.99)	4.01	—		49.40	121	8.32	358	29
28,400	143	4.7	190	11.7	215	4.71	4.23	1.52	11.94	110	12.49	350	4.10	408	29
37,804	104	3.1	303	8.7	298	3.84	4.49	2.25	5.48	238	46.77	130	10.80	316	29
193,700	6	3.5	263	13.5	177	7.94	8.74	2.46	12.43	101	32.54	213	25.26	73	41
97,000	20	5.0	175	11.2§	230	4.75	5.74	2.86	5.20	245	35.10	192	12.97	269	29
278,000	5	4.8	187	11.1	234	4.50	4.75	4.22	0.64	317	52.03	108	13.24	264	36
81,478†	29	5.3	153	51.1§	1	5.79**	1.84	4.80	1.89	294	55.63	97	10.00	328	40
61,700	50	7.0	87	18.8	57	5.22	4.69	1.84	10.99	122	0.25	410	5.75	384	43
96,228	21	7.4	75	15.7§	115	7.25	7.82	2.94	9.43	157	25.10	265	17.45	179	21
19,440	192	4.3	212	9.1§	286	6.24	8.61	1.88	12.72	100	107.68	13	12.02	292	29
44,000	77	13.0	12	18.7	61	6.14	7.63	0.61**	26.03	12	32.91	208	12.22	288	29
142,000†	11	0.5	419	1.1	415	N.A.	N.A.	N.A.	—		—		—		36
84,600†	28	3.2	287	11.7	218	3.67	3.02	0.53	21.27	29	33.28	205	36.92	14	41
54,500	64	3.1	306	6.6	361	1.71**	2.07**	1.49	1.35	308	35.94	186	5.90	383	28
117,750	15	1.0	402	1.2§	414	0.13	6.22	3.45	(27.95)	387	79.61	30	6.53	378	37
125,500	14	5.6	136	7.5	333	3.41	7.12	4.05	(1.71)	342	(7.35)	439	(0.38)	438	38
20,304	187	6.2	109	12.1	208	3.60	4.63	1.38	10.10	140	22.54	286	13.50	254	29
128,760†	13	3.1	295	10.1	260	3.06**	3.59	2.53	1.92	293	(9.21)	443	14.22	236	30
77,139†	37	4.5	200	14.9	136	7.92	6.40	3.70[7]	7.91	190	2.87	399	11.79	297	20
132,927†	12	4.7	191	13.2	185	5.08	5.16	1.82	10.81	125	45.47	136	14.27	234	36
68,000	47	9.6	39	22.4	29	7.17	6.23	1.35	18.13	42	24.21	271	12.72	277	21
78,000†	34	0.5	418	2.0	407	0.27	3.80**	1.36	(14.93)	378	42.34	153	9.29	338	20
99,506	18	0.9	404	1.6	410	1.13‡	4.47	4.78	(13.43)	376	25.11	264	12.61	279	28
104,007	16	5.5	138	9.9§	267	4.42	5.00	3.80	1.52	303	40.47	165	(4.88)	453	38
8,082†	355	2.5	347	8.1	316	2.43	2.00	4.41	(5.80)	359	20.40	304	8.74	347	29
46,897†	72	3.6	257	6.6§	363	2.40	3.38	1.40	5.52	237	11.81	352	11.73	299	29
60,000	53	3.5	261	15.4	121	5.73	4.05	2.21	10.00	142	35.71	188	14.32	232	20
74,466	40	3.4	270	13.3	180	6.91	5.44	3.26	7.80	196	44.35	141	18.00	168	41
102,707	17	4.8	186	16.4	100	2.52	2.16	1.06	9.02	163	59.32	88	24.83	77	41
154,000	10	3.6	256	15.8	112	3.01	2.40	1.12	10.39	137	11.52	353	8.95	343	49
28,976	138	1.3	394	6.3§	368	2.46	5.29	2.25	0.91	312	5.17	390	12.54	281	29
92,600	24	4.0	231	22.7	27	5.30	2.41	0.79	21.00	33	78.95	33	32.01	27	41
85,702	27	9.5	40	18.0	72	5.67	5.37	2.62	8.03	188	14.40	336	4.35	404	38
40,000	94	8.0	62	19.1	53	4.10	3.95	1.80	8.58	174	8.04	375	2.93	418	49
93,300	23	2.6	339	18.3	68	5.75	5.39	2.51	8.64	172	20.38	305	16.75	193	20
71,800	44	4.1	227	31.5§	4	4.18	3.65	0.49**	23.82	18	63.82	75	43.46	5	41

[1] Name changed from International Telephone & Telegraph December 31, 1983.

[2] Figures are for fiscal year ended June 30, 1983.

[3] Figures include Heublein (1982 rank: 204), acquired October 12, 1982.

[4] Name changed from Western Electric January 3, 1984.

[5] Figures include Bendix (1982 rank: 86), acquired January 31, 1983.

[6] Name changed from Union Oil of California April 25, 1983.

[7] Figure is for Kraftco.

[8] Figures are for fiscal year ended February 28, 1983.

[9] Figures are for fiscal year ended March 31, 1983.

[10] Figures are for fiscal year ended September 30, 1983.

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
51	62	**Georgia-Pacific** (Atlanta)	6,469,000	4,979,000	56	105,000	135	2,013,000	69
52	47	**Monsanto** (St. Louis)	6,299,000	6,427,000	39	402,000	41	3,667,000	33
53	50	**W.R. Grace** (New York)	6,219,500	5,034,600	55	159,715	102	2,182,300	61
54	69	**Signal Companies** (La Jolla, Calif.)[11]	6,151,000	5,203,000	54	103,000	136	2,633,000	51
55	77	**Anheuser-Busch** (St. Louis)	6,034,200*	4,330,200	69	348,000	45	1,766,500	81
56	52	**Nabisco Brands** (Parsippany, N.J.)	5,985,200	3,625,500	84	322,600	48	1,710,800	83
57	55	**Johnson & Johnson** (New Brunswick, N.J.)	5,972,900	4,461,500	64	489,000	31	3,026,500	41
58	54	**Coastal** (Houston)	5,963,074	3,338,392	93	93,695	149	572,007	229
59	58	**Raytheon** (Lexington, Mass.)	5,937,264	3,728,700	81	300,147	52	1,887,441	74
60	59	**Honeywell** (Minneapolis)	5,753,100	4,675,400	60	231,200	69	2,313,700	57
61	88	**Charter** (Jacksonville, Fla.)	5,565,643	1,813,199	175	53,895	218	614,127	217
62	63	**General Mills** (Minneapolis)[12]	5,550,800	2,943,900	103	245,100	63	1,227,400	115
63	66	**TRW** (Cleveland)	5,492,998	3,321,383	94	205,160	73	1,615,979	86
64	45	**Caterpillar Tractor** (Peoria, Ill.)	5,424,000	6,968,000	37	(345,000)	482	3,337,000	36
65	74	**Aluminum Co. of America** (Pittsburgh)	5,263,400	6,266,800	41	174,200	89	3,227,500	38
66	57	**Sperry** (New York)[9]	5,076,000	5,330,300	50	118,100	119	2,398,900	55
67	60	**Gulf & Western Industries** (New York)[13]	5,072,459¶	4,418,176	67	(212,053)	480	1,893,924	73
68	67	**Continental Group** (Stamford, Conn.)	4,942,000	3,653,000	83	199,000	77	1,532,000	88
69	64	**Bethlehem Steel** (Bethlehem, Pa.)	4,898,200	4,457,400	65	(163,500)**	477	1,313,100	103
70	82	**Weyerhaeuser** (Tacoma, Wash.)	4,882,629	5,945,634	45	204,843	74	3,223,347	39
71	71	**Ralston Purina** (St. Louis)[10]	4,872,400	2,101,200	155	256,000	61	1,104,100	138
72	70	**Colgate-Palmolive** (New York)	4,864,798	2,663,965	123	197,834	78	1,341,668	101
73	76	**American Home Products** (New York)	4,856,501	3,086,029	100	627,233	23	2,048,889	67
74	68	**Litton Industries** (Beverly Hills, Calif.)[13]	4,719,206	3,999,403	76	231,560	68	1,829,661	77
75	81	**Hewlett-Packard** (Palo Alto, Calif.)[14]	4,710,000	4,161,000	73	432,000	39	2,887,000	45
76	80	**Control Data** (Minneapolis)	4,582,800	8,777,600	31	161,700	100	1,825,500	78
77	79	**Texas Instruments** (Dallas)	4,579,800	2,713,300	122	(145,400)	473	1,202,700	119
78	65	**LTV** (Dallas)	4,577,800	4,406,300	68	(180,700)‡	479	1,142,000	127
79	90	**American Brands** (New York)	4,436,452*	4,303,874	71	390,298	42	2,085,147	64
80	91	**International Paper** (New York)	4,357,100	5,617,100	48	254,900	62	3,321,200	37
81	98	**Motorola** (Schaumburg, Ill.)	4,328,000	3,236,000	97	244,000	64	1,948,000	71
82	85	**Burroughs** (Detroit)	4,296,500	4,098,200	75	196,900	79	2,231,900	59
83	102	**Archer-Daniels-Midland** (Decatur, Ill.)[2]	4,291,957	2,549,910	131	110,185	130	1,449,963	95
84	95	**Digital Equipment** (Maynard, Mass.)[2]	4,271,854	4,541,085	62	283,622	58	3,541,282	34
85	84	**Borden** (New York)	4,264,771	2,720,471	121	189,069	84	1,391,039	100
86	101	**Champion International** (Stamford, Conn.)	4,263,999	3,575,743	88	82,160	164	1,782,186	80
87	61	**Armco** (Middletown, Ohio)	4,164,600	3,609,000	86	(672,500)	488	1,288,900	106
88	117	**Esmark** (Chicago)[14]	4,037,386	3,661,673	82	117,348	120	1,031,001	146
89	121	**Diamond Shamrock** (Dallas)[15]	4,026,107	6,024,441	43	(56,163)	456	2,743,327	47
90	87	**CPC International** (Englewood Cliffs, N.J.)	4,010,900	2,482,800	133	136,200	110	1,306,000	104
91	106	**Time Inc.** (New York)	3,990,435¶	2,273,316	142	168,934	92	881,445	174
92	75	**Deere** (Moline, Ill.)[14]	3,967,934	5,880,012	46	23,285	341	2,275,967	58
93	104	**Bristol-Myers** (New York)	3,917,005	3,007,265	102	407,961	40	1,907,909	72
94	108	**Martin Marietta** (Bethesda, Md.)	3,899,258	2,737,651	118	141,331	106	845,356	181
95	96	**Firestone Tire & Rubber** (Akron, Ohio)[14]	3,866,000	2,729,000	119	111,000	128	1,291,000	105
96	94	**IC Industries** (Chicago)	3,864,100	3,985,100	77	92,700	152	1,225,100	116
97	122	**North American Philips** (New York)	3,799,825	2,252,493	144	95,712	146	883,874	173
98	97	**Agway** (DeWitt, N.Y.)[2]	3,768,212	1,416,547	209	N.A.[16]		290,931	340
99	114	**Pfizer** (New York)	3,750,000	3,936,100	78	447,100	37	2,180,800	62
100	103	**H.J. Heinz** (Pittsburgh)[17]	3,738,445	2,178,693	150	214,250	71	1,138,707	128

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
39,000	99	1.6	381	5.2	383	0.97	1.44‡	1.79	(5.93)	360	(3.43)	428	4.64	400	26
50,889	68	6.4	103	11.0	235	9.78	8.79	6.90	3.55	267	43.48	143	12.07	291	28
78,500	33	2.6	340	7.3	339	3.28	6.62	2.86	1.38	307	25.21	262	12.79	273	28
55,000	60	1.7	379	3.9	394	0.90	1.56	0.79	1.29	309	35.60	190	20.88	129	41
39,320	97	5.8	127	18.0§	73	6.50	5.97	1.46	16.11	51	(0.59)	412	9.78	332	49
69,700	45	5.4	147	18.9	56	4.86	4.83	1.32	13.90	82	17.61	314	15.19	220	20
77,400	36	8.2	55	16.2	107	2.57	2.52	0.86	11.53	112	(15.47)	452	2.75	420	42
5,484	420	1.6	385	15.3§	123	4.02	2.65	1.76	8.61	173	72.74	46	17.93	170	29
76,100	39	5.1	167	15.9	111	3.55	3.78	0.77	16.51	47	(0.50)	411	21.78	113	36
93,514	22	4.0	230	10.0	265	5.03	6.08	2.73	6.30	224	56.49	93	10.35	320	44
4,800	438	1.0	401	8.8	297	2.01	1.04	0.92	8.11	184	11.36	355	17.86	175	29
81,186	30	4.4	205	20.0	47	4.89	4.46	1.40	13.32	88	11.16	356	10.33	321	20
88,374	26	3.7	249	12.7	192	5.53	5.49	2.95	6.49	218	21.66	294	21.42	119	40
58,402†	54	—		—		(3.74)	(2.04)	2.88	—		21.50	296	4.18	407	45
39,100†	98	3.3	276	5.4	379	2.15	0.11**	1.54	3.36	269	48.63	124	10.92	313	33
77,493	35	2.3	350	4.9	387	2.65	5.25	2.62	0.11	324	45.86	134	3.89	410	44
79,150	32	—		—		(2.86)	2.17	1.34	—		84.55	26	20.39	140	23
39,700	95	4.0	228	11.5§	223	3.66	3.20	2.17	5.38	242	66.47	66	17.63	177	34
52,800†	66	—		—		(3.92)**	(33.64)	4.72	—		51.17	114	4.80	397	33
40,018	93	4.2	220	6.3§	367	1.36	1.12	2.74	(6.77)	364	(2.64)	426	1.71	426	26
56,200	58	5.3	155	23.2	25	2.58	0.66	0.74	13.30	91	63.37	79	11.27	307	20
43,000†	80	4.1	225	14.8	144	2.42	2.41	1.31	6.33	223	15.97	327	3.66	412	43
54,680	63	12.9	13	30.6	6	4.00	3.59	1.25	12.33	103	16.26	323	6.58	377	42
69,200	46	4.9	181	12.7	193	5.52	7.54	0.82	21.01	32	47.11	129	30.51	32	36
72,000	43	9.2	43	15.0	133	1.69	1.52	0.24	21.75	24	16.53	321	15.91	214	44
55,858	59	3.5	258	8.9	291	4.20	4.11	1.86	8.46	178	23.47	278	11.13	309	44
80,696	31	—		—		(6.09)	6.10	3.67	—		4.46	392	4.29	405	36
37,300	105	—		—		(3.64)‡	(3.20)	5.16**	—		63.74	77	7.28	371	33
74,000	41	8.8	46	18.1§	71	6.76	6.55	2.45	10.68	131	36.89	181	22.15	109	21
33,600	121	5.9	121	6.9§	354	4.61	2.94	3.60	2.50	281	26.93	250	6.14	380	26
88,800	25	5.6	134	12.5	195	6.26	4.87	2.95	7.81	194	58.45	90	12.86	272	36
63,800	48	4.6	198	8.8	295	4.60	2.80	3.00	4.35	253	26.89	251	(4.14)	451	44
8,670	337	2.6	341	7.6	331	1.34	1.93	0.30	16.11	50	(1.67)	423	15.44	217	20
73,000	42	6.6	96	8.0	320	5.00	7.53	0.72	21.38	27	(27.64)	458	7.80	361	44
32,600†	122	4.4	203	13.6	172	6.56	5.81	2.37	10.72	129	23.64	275	16.73	195	20
39,681	96	1.9	367	4.6	390	1.22	0.45	2.71	(7.67)	367	23.26	280	11.41	303	26
48,071	71	—		—		(10.27)	(5.41)	2.25	—		29.92	235	10.05	325	33
60,000	51	2.9	316	11.2§	231	3.66	3.39	0.99	13.99	80	50.37	117	26.10	62	20
13,364	247	—		—		(0.71)	2.94	1.42	—		3.64	397	9.97	329	29
38,000	102	3.4	269	10.4	250	2.81	4.80	1.59	5.83	233	(2.28)	425	16.88	190	20
18,000	208	4.2	216	18.6§	62	2.65	2.45	1.14	8.75	169	22.54	285	27.54	48	27
45,728	74	0.6	412	1.0	417	0.34	0.78	2.88	(19.22)	382	33.90	201	8.61	350	45
36,500	109	10.4	28	21.4	34	3.00	2.59	0.79	14.27	76	29.11	238	17.28	184	42
42,800	82	3.6	255	16.7	92	4.23	1.95	1.13	14.08	79	27.01	248	25.64	67	41
60,000	52	2.9	321	8.6	300	2.26	0.11**	2.89	(2.43)	346	23.51	277	11.05	311	30
40,807	89	2.4	348	6.9§	356	4.73	2.03	3.42	3.30	271	43.06	148	16.00	212	20
56,500	56	2.5	344	8.1§	317	6.75	5.33	3.78	5.97	229	67.88	62	20.94	128	36
17,953	209	—		—		N.A.	N.A.	N.A.	—		—		—		29
40,700	90	11.9	16	20.5	40	2.73	2.13	0.87	12.12	107	7.18	380	8.41	357	42
43,452	79	5.7	129	18.8§	58	4.51	4.10	0.47‡	25.29	15	45.70	135	17.97	169	20

[11] Figures include Wheelabrator-Frye (1982 rank: 227), acquired February 1, 1983.

[12] Figures are for fiscal year ended May 31, 1983.

[13] Figures are for fiscal year ended July 31, 1983.

[14] Figures are for fiscal year ended October 31, 1983.

[15] Figures include Natomas (1982 rank: 214), acquired August 31, 1983.

[16] Cooperatives provide only "net margin" figures, which are not comparable with the net income figures in these listings.

[17] Figures are for fiscal year ended April 30, 1983.

RANK 1983	RANK 1982	COMPANY	SALES $ THOUSANDS	ASSETS $ THOUSANDS	ASSETS RANK	NET INCOME $ THOUSANDS	NET INCOME RANK	STOCKHOLDERS' EQUITY $ THOUSANDS	STOCKHOLDERS' EQUITY RANK
101	109	**NCR** (Dayton, Ohio)	**3,730,951**	**3,560,302**	89	**287,665**	55	**2,044,873**	68
102	115	**Pillsbury** (Minneapolis)[12]	**3,685,900**	**2,366,600**	138	**138,900**	107	**956,400**	161
103	118	**PPG Industries** (Pittsburgh)	**3,681,600**	**3,614,700**	85	**232,500**	67	**1,845,800**	76
104	73	**International Harvester** (Chicago)[14]	**3,601,302**	**3,361,827**	92	**(485,285)****	486	**(535,238)**	499
105	139	**American Motors** (Southfield, Mich.)	**3,565,941**	**1,723,823**	179	**(146,730)**	474	**134,294**	455
106	120	**Borg-Warner** (Chicago)	**3,542,100**	**2,617,100**	126	**182,600**	87	**1,473,000**	92
107	113	**American Cyanamid** (Wayne, N.J.)	**3,535,514**	**3,056,094**	101	**166,356**	95	**1,603,658**	87
108	99	**Kerr-McGee** (Oklahoma City)	**3,507,650**	**3,806,934**	80	**118,412**	118	**1,732,824**	82
109	93	**United Brands** (New York)[9]	**3,501,734**	**1,091,540**	246	**(149,553)**	475	**224,615**	378
110	111	**FMC** (Chicago)	**3,498,162**	**2,783,222**	117	**168,784**	93	**1,450,839**	94
111	110	**Emerson Electric** (St. Louis)[10]	**3,475,709**	**2,493,041**	132	**302,927**	51	**1,701,745**	84
112	83	**Dresser Industries** (Dallas)[14]	**3,473,400**	**3,245,400**	96	**5,100**	416	**1,952,900**	70
113	137	**Boise Cascade** (Boise, Idaho)	**3,450,890**	**2,837,635**	111	**60,380**	201	**1,398,523**	99
114	92	**Warner Communications** (New York)	**3,425,272**	**3,122,306**	99	**(417,803)**	484	**960,047**	160
115	107	**Owens-Illinois** (Toledo)	**3,422,100**	**2,935,900**	104	**69,100**	181	**1,321,700**	102
116	116	**Carnation** (Los Angeles)	**3,365,275**	**1,748,012**	178	**194,759**	80	**1,118,391**	135
117	89	**American Can** (Greenwich, Conn.)	**3,346,400**	**2,830,500**	113	**100,100**	142	**914,000**	167
118	130	**Reynolds Metals** (Richmond, Va.)	**3,340,800**	**3,293,500**	95	**(99,100)**	465	**1,219,600**	117
119	135	**Campbell Soup** (Camden, N.J.)[13]	**3,292,433**	**1,991,526**	162	**165,005**	96	**1,149,404**	125
120	134	**Kimberly-Clark** (Neenah, Wis.)	**3,274,300**	**2,903,900**	106	**188,800**	85	**1,477,700**	90
121	100	**Land O'Lakes** (Arden Hills, Minn.)	**3,264,792**¶	**694,446**	314	**N.A.**[16]		**217,423**	385
122	126	**Celanese** (New York)	**3,261,000**	**2,869,000**	109	**112,000**	126	**1,169,000**	123
123	158	**Northrop** (Los Angeles)	**3,260,600**	**1,596,000**	192	**100,700**	140	**576,900**	228
124	125	**Merck** (Rahway, N.J.)	**3,246,139**	**4,214,698**	72	**450,855**	35	**2,434,613**	54
125	128	**B.F. Goodrich** (Akron, Ohio)	**3,191,700**	**2,575,800**	130	**18,400**	371	**1,108,300**	137
126	131	**SmithKline Beckman** (Philadelphia)	**3,152,391**¶	**3,170,091**	98	**489,500**	30	**2,055,475**	66
127	143	**Inland Steel** (Chicago)	**3,149,195**	**2,626,435**	125	**(116,900)**	469	**1,131,310**	131
128	119	**Warner-Lambert** (Morris Plains, N.J.)	**3,108,325**	**2,919,416**	105	**200,496**	75	**1,420,517**	97
129	105	**Combustion Engineering** (Stamford, Conn.)	**3,091,936**	**2,585,435**	129	**(20,375)**	448	**769,195**	189
130	132	**Eli Lilly** (Indianapolis)	**3,033,700**	**3,413,800**	91	**457,400**	33	**2,121,000**	63
131	129	**Avon Products** (New York)	**3,000,100**	**2,285,800**	140	**164,400**	97	**1,204,200**	118
132	127	**National Intergroup** (Pittsburgh)[18]	**2,992,703**	**2,649,131**	124	**(154,318)****	476	**874,925**	175
133	140	**Burlington Industries** (Greensboro, N.C.)[10]	**2,990,362**	**2,190,402**	149	**88,481**	157	**1,197,421**	120
134	136	**Textron** (Providence)	**2,979,800**	**2,104,600**	154	**88,700**	156	**1,244,600**	111
135	141	**Teledyne** (Los Angeles)	**2,979,000**	**3,852,200**	79	**304,600**	50	**2,641,200**	49
136	124	**Norton Simon** (New York)[2]	**2,943,825**	**2,043,683**	161	**9,743**‡	403	**618,542**	213
137	152	**Abbott Laboratories** (North Chicago, Ill.)	**2,927,873**	**2,824,128**	115	**347,617**	46	**1,417,883**	98
138	147	**Eaton** (Cleveland)	**2,918,125**	**2,279,084**	141	**93,311**	151	**987,341**	153
139	160	**Dana** (Toledo)	**2,865,012**	**2,094,777**	157	**112,803**	125	**1,118,315**	136
140	138	**Kaiser Aluminum & Chemical** (Oakland, Calif.)	**2,857,600**	**3,506,000**	90	**(74,900)**	460	**1,232,700**	112
141	154	**St. Regis** (New York)[19]	**2,774,578**	**2,880,078**	107	**55,181**	213	**1,531,434**	89
142	163	**Owens-Corning Fiberglas** (Toledo)	**2,753,213**	**1,640,519**	188	**87,923**	158	**765,560**	190
143	153	**Levi Strauss** (San Francisco)[20]	**2,731,273**	**1,831,875**	172	**194,523**	81	**1,053,709**	142
144	133	**Crown Zellerbach** (San Francisco)	**2,722,400**	**2,411,000**	134	**87,800**	159	**1,135,100**	130
145	145	**Republic Steel** (Cleveland)	**2,701,107**	**2,867,376**	110	**(326,494)**	481	**1,093,539**	139
146	146	**Quaker Oats** (Chicago)[2]	**2,690,000**	**1,463,700**	205	**56,800**	206	**639,400**	208
147	168	**Whirlpool** (Benton Harbor, Mich.)	**2,667,682**	**1,466,503**	204	**167,038**	94	**977,648**	159
148	159	**Hercules** (Wilmington, Del.)	**2,628,954**	**2,175,173**	151	**174,222**	88	**1,288,118**	107
149	149	**Mead** (Dayton, Ohio)	**2,613,400**¶	**2,087,200**	159	**42,600****	255	**863,000**	176
150	148	**Interco** (St. Louis)[8]	**2,566,606**	**1,554,975**	193	**85,762**	161	**932,417**	165

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[18] Company was restructured September 13, 1983 as holding company of National Steel (1982 rank: 127).

[19] Name changed from St. Regis Paper April 28, 1983.

[20] Figures are for fiscal year ended November 30, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
62,000	49	7.7	66	14.1	161	10.55	8.75	3.10	13.03	96	51.80	111	17.89	174	44
56,200	57	3.8	245	14.5	148	6.39	6.29	1.87	13.07	94	50.62	116	17.90	173	20
36,974†	107	6.3	104	12.6	194	3.34	2.25	1.67	7.16	210	39.54	170	22.64	100	32
32,445	124	—		—		(15.70)**	(51.39)	4.13	—		170.59	2	(2.92)	446	40
25,900	153	—		—		(2.11)	(2.85)	3.18**	—		(5.66)	433	(2.39)	443	40
77,100†	38	5.2	162	12.4	198	2.03	1.95	0.92	8.18	183	34.81	195	25.15	75	45
38,691	101	4.7	192	10.4	254	3.41	2.74	2.37	3.71	261	48.92	123	15.86	215	28
9,544	308	3.4	272	6.8	357	2.24	3.98	1.26	5.92	230	10.35	361	(1.49)	441	29
43,000	81	—		—		(13.82)	0.06	2.11	—		82.35	29	8.55	353	20
30,497	129	4.8	185	11.6	220	5.02	4.56	2.34	7.93	189	48.60	126	16.51	201	37
50,000†	69	8.7	47	17.8	78	4.42	4.37	1.54	11.12	120	13.47	343	7.82	360	36
40,500	91	0.2	427	0.3	423	0.06	2.19	0.84	(23.24)	386	9.11	371	4.99	395	45
28,708	140	1.8	376	4.3	392	1.91	0.26	4.55**	(8.31)	369	17.05	315	16.82	192	26
20,000	189	—		—		(6.44)	3.96	0.66	—		(16.79)	453	28.42	43	36
43,854	78	2.0	361	5.2	382	2.48	3.18	4.23	(5.20)	357	38.25	176	14.63	226	32
20,415	186	5.8	125	17.4	82	5.47	5.01	1.73	12.18	105	31.53	219	11.20	308	20
29,800†	132	3.0	308	8.2§	311	3.75	(7.31)	3.58	0.47	319	61.21	82	14.03	239	34
28,200†	144	—		—		(5.15)	0.26	2.41	—		59.61	86	13.43	255	33
41,704	86	5.0	170	14.4	152	5.12	4.64	2.36	8.05	187	30.65	225	12.48	283	20
33,836	120	5.8	128	12.8	190	8.39	8.83	3.51	9.11	161	30.15	234	16.94	187	26
6,324	392	—		—		N.A.	N.A.	N.A.	—		—		—		20
23,300	166	3.4	267	9.6	275	6.89	(2.45)	5.56	2.17	290	61.33	81	16.89	189	28
37,200	106	3.1	300	17.5	81	6.62	0.36	0.98	21.09	31	16.82	320	35.95	16	41
32,600	123	13.9	7	18.5	64	6.10	5.61	2.40	9.78	147	10.10	365	3.78	411	42
29,427	135	0.6	413	1.5§	411	0.68	(2.43)	3.76	(15.72)	380	(0.59)	413	13.04	267	30
31,317	127	15.5	2	23.8	20	5.89	5.51	0.89	20.84	34	(14.28)	450	19.73	147	42
28,700†	141	—		—		(4.76)	(5.60)	4.39	—		21.15	300	7.38	370	33
42,000	84	6.5	100	14.1	158	2.51	2.20	1.78	3.50	268	9.89	366	2.25	423	42
35,522	111	—		—		(0.61)	5.54	1.35	—		2.17	402	3.63	414	45
29,200	137	15.1	4	21.6	31	6.13	5.42	2.26	10.49	136	5.43	388	0.83	431	42
38,700	100	5.5	142	13.7	171	2.21	2.75	2.34	(0.57)	333	1.40	405	(2.93)	447	43
17,400†	212	—		—		(8.33)**	(24.77)	5.27	—		101.43	14	8.80	346	33
53,000	65	3.0	312	7.4	335	3.10	1.85	3.05	0.16	323	30.87	222	12.46	284	22
41,000	88	3.0	309	7.1	346	2.40	2.30	2.65	(0.99)	337	44.95	138	11.81	296	45
46,300	73	10.2	31	11.5	222	14.87	12.62	1.00	30.98	6	29.28	237	40.18	10	45
35,000	114	0.3	423	—		(0.28)‡	3.31**	1.56	—		—		—		20
34,328	117	11.9	18	24.5	17	2.86	2.37	0.42	21.18	30	19.25	308	24.51	79	42
41,707	85	3.2	284	9.5	280	3.06	(6.74)	3.23	(0.53)	332	72.66	47	18.45	160	36
34,500	116	3.9	235	10.1	261	2.04	0.95	1.32	4.47	251	25.53	260	21.33	121	40
17,000†	216	—		—		(1.75)	(2.68)	1.08	—		34.55	198	12.74	276	33
26,000	152	2.0	363	3.6	398	1.41	1.29	2.88	(6.89)	366	43.13	145	5.43	388	26
22,800†	167	3.2	286	11.5	224	3.05	0.98	1.55	6.97	214	0.53	408	9.02	341	32
44,000	76	7.1	83	18.5	66	4.61	3.05	0.27	32.69	3	12.53	349	30.33	33	23
18,665	199	3.2	282	7.7	327	2.54	(4.86)	4.26	(5.04)	356	28.09	241	5.45	387	26
25,250†	154	—		—		(19.68)	(14.78)	5.36	—		84.80	25	9.37	336	33
25,200	155	2.1	358	8.2§	310	2.66	4.76	2.04	2.69	278	42.39	152	11.99	293	20
22,627	169	6.3	107	17.1	87	4.58	3.83	2.41	6.63	217	15.09	333	12.20	289	36
24,221	161	6.6	97	13.5	174	3.17	2.22	2.18	3.82	260	34.41	199	5.11	393	28
17,000	217	1.6	380	4.9	385	1.49**	(3.29)	1.77	(1.73)	343	112.00	12	19.41	152	26
51,650	67	3.3	274	8.4§	308	5.22	7.23	3.83	3.14	274	13.74	340	16.21	209	23

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
151	123	**Penn Central** (New York)	**2,538,900**	**2,873,600**	108	**19,700**	365	**1,441,400**	96
152	157	**Swift Independent** (Chicago)[14]	**2,534,600**	**289,664**	463	**21,997**	354	**117,366**	463
153	112	**Tosco** (Santa Monica, Calif.)	**2,494,200**	**953,500**	268	**(378,098)**	483	**(64,047)**	497
154	176	**Times Mirror** (Los Angeles)	**2,478,533**	**2,384,531**	136	**199,580**	76	**1,120,389**	134
155	155	**Singer** (Stamford, Conn.)	**2,478,400**	**1,420,300**	206	**31,600****	305	**435,400**	277
156	167	**Scott Paper** (Philadelphia)	**2,465,088**	**2,723,156**	120	**123,679**	115	**1,463,551**	93
157	151	**Murphy Oil** (El Dorado, Ark.)	**2,388,491**	**2,807,837**	116	**131,907**	112	**986,217**	154
158	164	**Kellogg** (Battle Creek, Mich.)	**2,381,100**	**1,467,200**	203	**242,700**	65	**977,900**	158
159	165	**Revlon** (New York)	**2,378,867**	**2,215,330**	147	**111,203**	127	**903,069**	170
160	142	**Allegheny International** (Pittsburgh)	**2,347,858**	**1,939,813**	167	**28,305**	318	**338,551**	318
161	150	**Kidde** (Saddle Brook, N.J.)	**2,330,105¶**	**1,686,096**	182	**(123,799)**	470	**603,062**	219
162	202	**ConAgra** (Omaha)[12]	**2,319,973**	**901,514**	277	**47,770**	238	**273,332**	350
163	169	**Pennzoil** (Houston)	**2,316,833**	**3,584,255**	87	**164,235**	98	**1,229,045**	114
164	161	**AMAX** (Greenwich, Conn.)	**2,290,100**	**4,447,700**	66	**(489,000)**	487	**1,634,700**	85
165	144	**Ingersoll-Rand** (Woodcliff Lake, N.J.)	**2,274,075**	**2,311,164**	139	**(112,166)**	468	**1,030,561**	147
166	232	**National Distillers & Chemical** (New York)	**2,266,800***	**1,973,000**	163	**66,700**	188	**986,000**	155
167	177	**Grumman** (Bethpage, N.Y.)	**2,220,162**	**1,087,703**	247	**110,746**	129	**442,402**	275
168	179	**General Tire & Rubber** (Akron, Ohio)[20]	**2,184,351**	**1,852,553**	171	**67,427**	185	**941,232**	162
169	172	**Gillette** (Boston)	**2,183,297**	**1,696,144**	180	**145,876**	105	**757,427**	191
170	178	**American Standard** (New York)	**2,181,521**	**1,621,630**	190	**62,585**	199	**602,999**	220
171	173	**Wilson Foods** (Oklahoma City)[13]	**2,176,575**	**260,372**	473	**(42,877)**	454	**40,614**	491
172	206	**Williams Companies** (Tulsa)	**2,167,000**	**4,686,400**	59	**54,000**	217	**1,173,900**	122
173	189	**Fruehauf** (Detroit)	**2,129,375**	**1,596,101**	191	**8,382**	408	**503,202**	249
174	182	**Engelhard** (Edison, N.J.)	**2,099,337**	**889,287**	281	**73,519**	174	**456,258**	271
175	170	**McGraw-Edison** (Rolling Meadows, Ill.)	**2,093,726**	**1,519,668**	194	**33,373**	293	**571,973**	230
176	171	**American Petrofina** (Dallas)	**2,069,122**	**1,399,268**	210	**55,260**	210	**585,099**	227
177	183	**Mapco** (Tulsa)	**2,064,653**	**1,641,100**	187	**54,056**	216	**642,806**	207
178	184	**White Consolidated Industries** (Cleveland)	**2,057,958**	**1,314,857**	214	**51,783**	226	**594,467**	226
179	●	**Avco** (Greenwich, Conn.)[20]	**2,044,053**	**6,388,277**	40	**102,686**	138	**1,137,947**	129
180	186	**Uniroyal** (Middlebury, Conn.)	**2,040,285**	**1,486,030**	200	**66,998****	187	**672,368**	201
181	185	**Jim Walter** (Tampa, Fla.)[21]	**2,025,160**	**2,608,686**	128	**70,572**	179	**746,988**	193
182	191	**Upjohn** (Kalamazoo, Mich.)	**1,986,106**	**2,195,048**	148	**160,225**	101	**1,057,288**	141
183	166	**Northwest Industries** (Chicago)	**1,975,500¶**	**1,811,100**	176	**(80,400)**	461	**602,800**	221
184	190	**Sherwin-Williams** (Cleveland)	**1,973,485**	**939,843**	271	**55,412**	208	**370,970**	302
185	193	**Olin** (Stamford, Conn.)	**1,934,579**	**1,829,416**	173	**71,715**	175	**848,355**	179
186	195	**J.P. Stevens** (New York)[14]	**1,926,137**	**1,164,039**	234	**18,901**	368	**560,982**	232
187	175	**Ogden** (New York)	**1,918,158¶**	**1,052,839**	253	**52,977**	221	**358,182**	309
188	196	**Sterling Drug** (New York)	**1,901,171**	**1,470,485**	202	**136,844**	109	**912,700**	168
189	192	**Rohm & Haas** (Philadelphia)	**1,875,937**	**1,511,244**	196	**137,603**	108	**904,393**	169
190	162	**Cooper Industries** (Houston)	**1,850,280**	**1,949,447**	164	**71,169**	177	**1,250,649**	110
191	209	**Baxter Travenol Laboratories** (Deerfield, Ill.)	**1,842,544**	**2,127,037**	153	**218,055**	70	**1,151,109**	124
192	156	**Baker International** (Orange, Calif.)[10]	**1,837,587**	**2,159,595**	152	**(63,518)**	458	**1,044,095**	144
193	188	**SCM** (New York)[2]	**1,813,217**	**1,112,678**	240	**24,454**	337	**505,671**	248
194	194	**Schering-Plough** (Kenilworth, N.J.)	**1,808,500**	**2,397,400**	135	**190,100**	83	**1,268,000**	108
195	210	**Squibb** (Princeton, N.J.)	**1,768,891**	**1,945,765**	165	**172,707**	90	**1,231,381**	113
196	180	**Superior Oil** (Houston)	**1,765,118**	**5,266,963**	51	**241,755**	66	**2,467,790**	53
197	216	**Ethyl** (Richmond, Va.)	**1,745,193**	**1,510,123**	197	**106,038**	134	**850,808**	178
198	181	**Gould** (Rolling Meadows, Ill.)	**1,740,600¶**	**1,487,700**	199	**64,100**	195	**885,100**	172
199	187	**Manville** (Denver)	**1,729,465**	**2,253,262**	143	**67,194**	186	**830,864**	182
200	198	**Central Soya** (Fort Wayne, Ind.)[21]	**1,721,956¶**	**551,817**	347	**25,199**	334	**307,893**	331

● Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[21] Figures are for fiscal year ended August 31, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
34,700	115	0.8	408	—		(0.48)	3.02	(119.33)	—		42.18	154	(3.61)	450	36
6,710	389	0.9	406	18.7	60	4.40	5.07	N.A.	—		19.20	309	—		20
1,870	489	—		—		(21.35)	5.99	0.28	—		(55.06)	463	(3.46)	449	29
28,174	145	8.1	60	17.8	77	2.90	2.04	0.81	13.53	86	23.45	279	20.47	138	27
55,000	61	1.3	396	7.3	340	1.52**	(0.49)**	5.32	(11.77)	374	45.92	133	0.07	436	36
17,000	218	5.0	169	8.0§	319	2.58	1.61	1.63	4.70	250	61.11	83	13.53	252	26
5,755	407	5.5	137	13.4	178	3.60	4.28	1.53	8.93	165	31.18	221	11.00	312	29
18,293	204	10.2	32	24.8	15	3.17	2.98	0.89	13.54	85	27.68	244	13.29	262	20
30,500	128	4.7	194	11.4§	226	2.81	2.45	1.65	5.47	240	15.17	331	4.64	401	43
36,700	108	1.2	399	—		(1.43)	0.21	3.53	—		22.06	291	11.71	300	36
32,000	126	—		—		(6.30)	4.02	1.79	—		40.37	166	20.79	132	47
15,330	227	2.1	359	16.7§	93	2.59	2.51	0.59	15.95	55	26.02	254	34.73	19	20
8,682	335	7.1	84	13.1§	186	3.03	3.60	1.62	6.46	221	3.06	398	13.32	260	29
13,371	246	—		—		(7.74)	(6.53)	2.67	—		10.11	364	0.28	434	10
32,289	125	—		—		(5.94)	2.35	4.91	—		39.18	171	0.22	435	45
13,071	251	2.9	314	5.8§	373	1.77	2.15	2.68**	(4.06)	351	20.71	301	16.38	206	28
28,800	139	5.0	176	23.8§	22	3.82	1.16	1.89**	7.29	208	4.04	395	26.00	63	41
34,000	119	3.1	301	7.1§	343	2.91	0.78	2.97	(0.20)	328	41.91	158	20.49	137	30
29,400	136	6.7	93	19.3	51	4.78	4.45	2.91	5.09	248	13.24	344	8.89	345	34
37,900	103	2.9	322	10.4	252	2.27	1.30	1.08	7.71	200	10.33	362	25.98	64	37
8,600	340	—		—		(7.31)	3.30**	N.A.	—		(9.09)	441	—		20
8,200	349	2.5	346	4.6	391	1.79	1.15	2.32	(2.58)	348	69.56	56	1.46	427	28
26,800	149	0.4	421	1.7	409	0.42	(2.47)	4.03	(20.24)	383	66.02	68	17.47	178	40
6,900	383	3.5	260	16.1	108	2.73	2.41	N.A.	—		21.24	298	—		28
28,400	142	1.6	383	5.8	372	2.02	3.51	2.14	(0.58)	334	10.51	360	14.48	230	36
2,594	487	2.7	336	9.4	282	5.10	5.03	4.03	2.38	287	(1.36)	420	12.49	282	29
6,075	400	2.6	338	8.4	306	1.85	2.67	1.05	5.83	232	9.68	367	3.37	416	29
22,800	168	2.5	345	8.2§	312	3.23	2.10	2.75	1.62	301	36.81	182	24.15	84	36
26,549	150	5.0	168	9.0	288	4.25	3.14**	(3.05)‡	—		16.12	324	20.62	134	41
20,607	183	3.3	279	10.0	266	2.03**	0.78	1.58	2.54	280	44.68	139	11.96	294	30
19,200	194	3.5	262	9.5	281	4.05	0.29	3.01	3.01	275	1.29	407	15.02	222	30
21,410	177	8.1	59	15.2	126	5.28	4.18	2.33	8.52	177	32.68	212	1.15	428	42
29,600	133	—		—		(4.23)	8.75	2.79	—		46.49	132	25.34	72	33
19,359	193	2.8	325	14.9	135	2.32	2.02	1.09	7.85	192	22.05	292	16.41	205	28
18,200	206	3.7	250	8.5	305	3.01	2.26	2.60	1.48	305	36.09	184	23.11	97	28
35,300	112	1.0	400	3.4	400	1.09	1.54	2.16	(6.62)	363	(1.40)	421	14.31	233	22
45,000†	75	2.8	329	14.8	141	2.77	3.13	1.63	5.42	241	14.02	337	19.70	148	37
23,447	165	7.2	81	15.0	132	2.24	2.17	1.29	5.67	236	25.49	261	4.07	409	42
11,379	278	7.3	78	15.2	125	5.33	3.31	2.58	7.53	203	59.62	85	8.69	349	28
29,838	131	3.9	241	5.7	376	1.29	2.76	1.01	2.48	282	26.71	252	15.97	213	36
34,036	118	11.8	19	18.9	55	1.54	1.32	0.24	20.56	36	(2.77)	427	7.70	362	42
20,552	185	—		—		(0.91)	3.60	0.29	—		(10.36)	445	7.68	363	45
24,500	160	1.4	392	4.8	388	2.55	3.01	2.00	2.46	284	27.20	246	21.70	116	28
24,500	159	10.5	26	14.8§	139	3.62	3.39	1.97	6.27	225	(1.13)	417	(2.88)	445	42
24,100	162	9.8	38	14.0	162	3.30	3.01	1.80	6.25	226	6.19	384	4.54	402	42
6,400	391	13.7	8	9.8	270	1.91	1.75	0.33	19.06	41	28.52	239	12.76	274	10
13,000	253	6.1	115	12.3§	202	2.61	2.34	1.25	7.60	202	78.47	35	20.83	131	28
20,651	182	3.7	252	7.2	341	1.42	2.15	1.89	(2.80)	349	(14.75)	451	15.37	219	36
20,560	184	3.9	237	8.1	318	1.76	(5.14)	3.04	(5.32)	358	7.32	379	1.76	425	32
7,872	362	1.5	390	8.2	314	1.68	1.28	1.69	(0.06)	327	(5.47)	432	2.85	419	20

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
201	199	**Harris** (Melbourne, Fla.)[2]	**1,718,083¶**	**1,360,422**	211	**55,900**	207	**635,618**	209
202	224	**Hershey Foods** (Hershey, Pa.)	**1,706,105**	**983,944**	262	**100,166**	141	**596,037**	225
203	229	**Gannett** (Rochester, N.Y.)	**1,703,646**	**1,689,556**	181	**191,665**	82	**1,022,289**	151
204	228	**Union Camp** (Wayne, N.J.)	**1,688,254**	**2,381,204**	137	**132,736**	111	**1,197,189**	121
205	201	**Emhart** (Farmington, Conn.)	**1,685,600**	**1,018,100**	258	**84,300**	162	**511,900**	245
206	211	**Chesebrough-Pond's** (Greenwich, Conn.)	**1,685,417**	**1,171,910**	232	**127,878**	113	**649,945**	205
207	219	**A.E. Staley Manufacturing** (Decatur, Ill.)[10]	**1,679,420**	**1,207,212**	224	**13,688****	389	**644,276**	206
208	197	**Crown Central Petroleum** (Baltimore)	**1,668,345**	**652,947**	324	**4,024**	420	**190,758**	412
209	347	**James River Corp. of Virginia** (Richmond, Va.)[17]	**1,656,112**	**1,152,117**	237	**55,148**	214	**344,294**	314
210	226	**National Can** (Chicago)	**1,647,563**	**880,819**	282	**22,107**	351	**339,493**	317
211	235	**Pitney Bowes** (Stamford, Conn.)	**1,642,389**	**1,473,017**	201	**86,934**	160	**600,331**	223
212	223	**Air Products & Chemicals** (Allentown, Pa.)[10]	**1,634,246**	**2,219,034**	146	**108,963**	131	**1,047,133**	143
213	231	**American Hoechst** (Somerville, N.J.)[22]	**1,624,729**	**1,240,287**	222	**35,511**	285	**659,761**	204
214	242	**Hammermill Paper** (Erie, Pa.)	**1,622,695**	**1,030,814**	256	**32,548**	298	**405,664**	284
215	247	**U.S. Gypsum** (Chicago)	**1,611,071**	**1,193,912**	227	**80,323**	166	**744,435**	194
216	221	**Cummins Engine** (Columbus, Ind.)	**1,604,723**	**1,258,733**	220	**5,160**	415	**500,900**	252
217	222	**Corning Glass Works** (Corning, N.Y.)	**1,589,400**	**1,774,600**	177	**92,200**	153	**1,032,700**	145
218	237	**Tribune** (Chicago)	**1,586,526**	**1,635,416**	189	**69,267**	180	**771,540**	188
219	205	**Colt Industries** (New York)	**1,576,183**	**1,177,123**	229	**99,255**	143	**466,831**	266
220	212	**General Signal** (Stamford, Conn.)	**1,574,948**	**1,314,413**	215	**89,698**	154	**845,972**	180
221	208	**Koppers** (Pittsburgh)	**1,565,670**	**1,175,414**	230	**30,588****	309	**569,477**	231
222	238	**Great Northern Nekoosa** (Stamford, Conn.)	**1,565,000**	**1,817,800**	174	**84,000**	163	**902,200**	171
223	244	**Lever Brothers** (New York)[23]	**1,564,624**	**541,850**	350	**14,550**	386	**218,100**	384
224	220	**Cabot** (Boston)[10]	**1,558,016**	**1,310,097**	216	**64,162**	193	**675,595**	200
225	258	**Pacific Resources** (Honolulu)	**1,550,511**	**637,056**	326	**11,110**	398	**143,932**	450
226	241	**R.R. Donnelley & Sons** (Chicago)	**1,545,750**	**1,204,117**	225	**114,436**	123	**705,341**	199
227	264	**Wang Laboratories** (Lowell, Mass.)[2]	**1,538,000**	**1,681,800**	184	**152,000**	103	**937,800**	163
228	256	**AMP** (Harrisburg, Pa.)	**1,515,460**	**1,238,400**	223	**163,128**	99	**800,853**	186
229	245	**Asarco** (New York)	**1,512,236**	**2,227,130**	145	**58,329**	203	**1,024,657**	149
230	294	**Alumax** (San Mateo, Calif.)	**1,510,188**	**1,511,848**	195	**71,438**	176	**661,557**	203
231	295	**Morton Thiokol** (Chicago)[2,24]	**1,509,157**	**1,151,349**	238	**78,462**	170	**550,453**	235
232	236	**Westvaco** (New York)[14]	**1,493,412**	**1,488,420**	198	**62,789**	198	**824,666**	184
233	225	**Joseph E. Seagram & Sons** (New York)[26,27]	**1,484,342***	**4,473,197**	63	**185,243**	86	**[illegible]62**	48
234	246	**Knight-Ridder Newspapers** (Miami)	**1,473,369**	**1,179,929**	228	**119,435**	116	**807,979**	185
235	203	**Marmon Group** (Chicago)	**1,467,059**	**1,092,864**	245	**42,292**	258	**400,766**	286
236	233	**Lear Siegler** (Santa Monica, Calif.)[2]	**1,464,190**	**894,898**	279	**64,122**	194	**482,093**	257
237	200	**International Minerals & Chemical** (Northbrook, Ill.)[2]	**1,462,000**	**1,943,900**	166	**80,500**	165	**1,024,100**	150
238	230	**Gold Kist** (Atlanta)[2]	**1,461,424**	**433,692**	397	**N.A.[16]**		**103,989**	470
239	174	**NL Industries** (New York)	**1,445,884**	**1,927,273**	169	**(107,402)**	466	**985,109**	156
240	252	**Armstrong World Industries** (Lancaster, Pa.)	**1,439,094**	**955,066**	267	**63,126**	196	**619,918**	212
241	239	**Geo. A. Hormel** (Austin, Minn.)[14]	**1,417,705**	**512,559**	359	**27,897**	321	**263,861**	355
242	259	**PACCAR** (Bellevue, Wash.)	**1,412,042**	**895,577**	278	**40,042**	265	**604,417**	218
243	234	**Farmers' Union Central Exchange** (St. Paul)[10]	**1,409,085**	**689,655**	315	**N.A.[16]**		**301,691**	338
244	207	**Anderson Clayton** (Houston)[2]	**1,390,402**	**866,260**	284	**21,661**	356	**558,400**	233
245	249	**Witco Chemical** (New York)	**1,385,744**	**732,851**	302	**52,022**	225	**336,713**	319
246	257	**Zenith Radio** (Glenview, Ill.)	**1,361,300**	**739,000**	299	**46,300**	243	**375,200**	299
247	253	**Mid-America Dairymen** (Springfield, Mo.)	**1,356,622**	**306,510**	458	**N.A.[16]**		**105,182**	469
248	272	**Mattel** (Hawthorne, Calif.)[27]	**1,341,914**	**756,963**	297	**42,390**	257	**274,571**	349
249	213	**Stauffer Chemical** (Westport, Conn.)[10]	**1,339,947**	**2,048,018**	160	**(1,719)****	431	**1,024,820**	148
250	296	**Monfort of Colorado** (Greeley, Colo.)[21]	**1,324,022**	**198,738**	486	**16,102**	378	**67,513**	484

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[22] Wholly owned by Hoechst AG.

[23] Wholly owned by Unilever.

[24] Name changed from Morton-Norwich Products September 24, 1982.

[25] Figure is for Morton-Norwich.

[26] Wholly owned by Seagram.

[27] Figures are for fiscal year ended January 31, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
22,200	170	3.3	280	8.8	296	1.78	2.42	0.65	10.60	132	10.82	359	22.58	103	36
14,310	238	5.9	120	16.8	90	3.20	3.00	0.55	19.26	38	16.10	325	23.68	89	20
27,000	148	11.3	20	18.8	59	2.40	2.26	0.63	14.37	75	(4.26)	429	13.81	245	27
17,274	214	7.9	63	11.1	232	5.45	5.10	2.67	7.38	206	41.91	157	12.27	287	26
29,500	134	5.0	172	16.5	99	3.37	3.26	1.06	12.26	104	44.29	142	25.37	71	45
22,056	172	7.6	69	19.7	49	3.58	3.56	1.24	11.18	117	(13.41)	449	6.13	381	43
4,517	450	0.8	407	1.8§	408	0.47**	2.75	0.49	(0.48)	331	30.53	229	23.09	98	20
5,715	409	0.2	426	1.5§	412	0.44	0.92	1.75	(12.89)	375	32.21	214	19.52	150	29
18,500	201	3.3	275	15.8§	114	2.69	1.30	0.21	29.09	8	41.42	159	36.48	15	26
10,541†	289	1.3	393	6.1§	369	2.13	3.35	1.84	1.47	306	25.54	259	18.67	157	34
26,468	151	5.3	154	14.5	150	2.23	2.16	(0.88)	—		46.51	131	29.84	38	44
16,700	221	6.7	94	10.4	251	3.55	5.94	0.86	15.18	68	25.15	263	10.77	317	28
8,596	341	2.2	356	5.4	381	N.A.	N.A.	N.A.	—		—		—		28
12,200	268	2.0	362	7.1§	345	3.25	3.49	2.34	3.34	270	55.49	98	16.49	202	26
16,100†	223	5.0	177	10.8	240	4.77	2.61	2.90	5.10	247	22.18	289	21.10	127	32
18,615	200	0.3	424	0.7§	419	0.36	0.21	3.84	(21.08)	384	69.23	57	14.91	223	45
27,647	146	5.8	124	8.9	290	4.38	3.52	4.00	0.91	311	9.40	369	2.50	421	32
18,700†	198	4.4	209	9.0	289	1.89	0.67	N.A.	—		—		—		27
22,100	171	6.3	105	21.3	35	4.01	(6.37)	1.14	13.44	87	79.03	32	33.21	23	45
23,530	164	5.7	131	10.6	245	3.16	3.85	1.25	9.67	151	16.84	319	10.47	319	38
14,518†	233	2.0	365	4.1§	393	0.81**	(1.67)	1.28	(4.51)	353	40.94	164	13.25	263	28
12,400†	265	5.4	149	9.3	285	3.25	3.21	1.34	9.28	160	73.94	45	18.27	162	26
5,000	431	0.9	403	6.7	358	N.A.	N.A.	N.A.	—		—		—		43
7,200	377	4.1	223	9.5	276	2.00	2.77	0.67	11.50	114	24.17	273	23.22	95	28
818	495	0.7	409	7.7	329	0.71	0.73	0.47	4.30	255	30.54	228	11.40	304	29
16,500†	222	7.4	74	16.2	105	3.00	2.40	0.82	13.78	83	32.17	215	16.94	186	27
21,700†	174	9.9	36	16.2	106	1.16	0.88	0.04	39.12	2	21.17	299	45.79	3	44
21,300	178	10.8	24	20.4	41	4.55	3.31	1.23	13.98	81	70.24	55	13.39	258	36
9,900†	302	3.9	239	3.9§	396	1.54	(3.88)‡	4.25	(9.65)	371	4.38	393	7.49	366	33
13,059	252	4.7	189	10.8	238	N.A.	N.A.	N.A.	—		—		—		33
16,800	220	5.2	159	14.3	153	5.15	10.13[25]	1.89[25]	10.54	133	57.57	92	20.50	136	28
14,910	229	4.2	217	7.6	330	2.30	2.40	1.80	2.46	285	55.36	99	13.99	241	26
10,200	295	12.5	14	6.9	352	N.A.	N.A.	N.A.	—		—		—		49
22,040	173	8.1	58	14.8	143	1.80	1.57	0.53	13.06	95	9.23	370	18.14	164	27
16,000	224	2.9	319	8.5§	302	N.A.	N.A.	N.A.	—		—		—		33
20,004	188	4.4	208	13.3	179	3.84	4.36	0.91	15.49	64	34.62	197	30.73	31	38
8,400	343	5.5	139	7.9	322	3.02	5.13	1.09	10.78	126	43.11	147	14.72	225	10
9,002	325	—		—		N.A.	N.A.	N.A.	—		—		—		20
12,775	256	—		—		(1.80)	2.90	0.97	—		(8.84)	440	16.86	191	28
19,835†	190	4.4	206	10.2	259	2.53	0.79	2.15	1.64	299	16.06	326	7.58	364	22
6,765	388	2.0	364	10.6	246	2.90	2.92	0.77	14.18	78	13.78	339	18.69	156	20
9,146	323	2.8	324	6.6	360	2.21	2.05	2.36	(0.67)	335	42.98	149	18.65	158	40
2,962†	480	—		—		N.A.	N.A.	N.A.	—		—		—		29
12,631	257	1.6	386	3.9	395	1.75	4.47	1.16‡	4.20	257	11.48	354	16.10	211	20
8,155	351	3.8	246	15.5	118	3.60	2.10	1.39	9.98	143	99.15	15	23.25	94	29
30,000	130	3.4	268	12.3	200	2.26	(1.15)	2.90	(2.46)	347	77.50	39	8.46	354	36
3,050	477	—		—		N.A.	N.A.	N.A.	—		—		—		20
14,500†	235	3.2	293	15.4	119	1.78	1.68	(1.97)	—		(68.57)	465	9.06	340	47
9,709	307	—		—		(0.04)**	2.81	1.17	—		13.72	341	14.02	240	28
3,477	472	1.2	397	23.9	19	3.48	3.84**	0.21	32.41	4	10.28	363	13.66	250	20

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
251	255	**Johnson Controls** (Milwaukee)[10]	**1,323,424**	**926,025**	272	**59,041**	202	**418,523**	281
252	273	**Mobay Chemical** (Pittsburgh)[28]	**1,305,500**	**1,167,900**	233	**36,200**	279	**527,800**	241
253	217	**Allis-Chalmers** (West Allis, Wis.)	**1,300,327**	**1,054,178**	250	**(133,233)**	472	**294,934**	339
254	243	**Crown Cork & Seal** (Philadelphia)	**1,298,001**	**821,715**	291	**51,541**	227	**544,297**	240
255	262	**McGraw-Hill** (New York)	**1,295,175**	**1,052,873**	252	**126,478**	114	**616,622**	214
256	250	**Polaroid** (Cambridge, Mass.)	**1,254,500**	**1,319,100**	213	**49,700**	232	**921,600**	166
257	265	**Louisiana Land & Exploration** (New Orleans)	**1,244,700**	**1,681,600**	185	**94,000**	148	**634,600**	210
258	248	**Blue Bell** (Greensboro, N.C.)[10]	**1,228,973**	**708,874**	307	**47,562**	239	**454,504**	272
259	●	**Mack Trucks** (Allentown, Pa.)	**1,216,830**	**972,995**	263	**(26,175)**	450	**545,208**	239
260	274	**Brunswick** (Skokie, Ill.)	**1,216,248**	**817,014**	292	**66,129**	189	**376,382**	297
261	279	**National Semiconductor** (Santa Clara, Calif.)[12]	**1,210,499**	**847,287**	287	**(14,176)**	445	**335,679**	320
262	278	**West Point-Pepperell** (West Point, Ga.)[21]	**1,206,304**	**710,626**	306	**52,327**	224	**424,718**	279
263	261	**Tektronix** (Beaverton, Ore.)[12]	**1,191,380**	**1,087,414**	248	**48,714**	237	**661,695**	202
264	240	**Amstar** (New York)[2]	**1,191,135**	**604,658**	333	**22,383**	347	**391,489**	293
265	251	**Black & Decker Manufacturing** (Towson, Md.)[10]	**1,167,752**	**985,358**	261	**44,151**	250	**554,416**	234
266	280	**Libbey-Owens-Ford** (Toledo)	**1,167,652**	**838,106**	290	**40,370**	263	**493,001**	255
267	218	**Hughes Tool** (Houston)	**1,157,341**	**2,098,237**	156	**(90,873)**	463	**1,125,341**	132
268	323	**G. Heileman Brewing** (La Crosse, Wis.)	**1,150,965***	**530,301**	353	**56,969**	205	**239,315**	371
269	287	**Square D** (Palatine, Ill.)	**1,144,137**	**945,018**	270	**62,911**	197	**505,970**	246
270	308	**National Gypsum** (Dallas)	**1,130,868**	**865,918**	286	**53,792**	219	**524,484**	242
271	254	**Norton** (Worcester, Mass.)	**1,127,780**	**1,043,045**	254	**45,384**	244	**616,616**	215
272	315	**Intel** (Santa Clara, Calif.)	**1,121,943**	**1,679,650**	186	**116,111**	121	**1,121,740**	133
273	277	**Becton Dickinson** (Paramus, N.J.)[10]	**1,119,520**	**1,106,605**	243	**35,930**	280	**597,710**	224
274	268	**International Multifoods** (Minneapolis)[8]	**1,118,242**	**464,060**	384	**35,493**	286	**216,788**	386
275	266	**Federal Co.** (Memphis)[12]	**1,115,896**	**321,839**	454	**25,707**	331	**197,792**	406
276	276	**Richardson-Vicks** (Wilton, Conn.)[2]	**1,115,700**	**961,400**	266	**51,400**	228	**471,300**	262
277	350	**Miles Laboratories** (Elkhart, Ind.)[28]	**1,115,406**	**985,774**	260	**35,455**	287	**496,567**	254
278	312	**Adolph Coors** (Golden, Colo.)	**1,110,406***	**1,155,696**	236	**89,261**	155	**860,219**	177
279	322	**Louisiana-Pacific** (Portland, Ore.)	**1,101,980**	**1,265,000**	219	**27,920**	320	**729,000**	197
280	319	**VF** (Wyomissing, Pa.)	**1,100,956**	**567,161**	343	**119,401**	117	**399,911**	287
281	307	**New York Times** (New York)	**1,091,302**	**774,189**	296	**78,668**	169	**413,107**	283
282	271	**BOC** (Montvale, N.J.)[10,29]	**1,080,444**	**1,682,972**	183	**48,796**	236	**1,008,696**	152
283	298	**U.S. Industries** (Stamford, Conn.)	**1,075,637**	**689,141**	317	**33,710**	291	**395,402**	290
284	328	**Trane** (La Crosse, Wis.)	**1,072,958**	**669,727**	322	**32,575**	297	**305,714**	333
285	304	**BASF Wyandotte** (Parsippany, N.J.)[30]	**1,060,600**	**726,400**	303	**16,800‡**	374	**306,300**	332
286	330	**Masco** (Taylor, Mich.)	**1,059,450**	**1,271,410**	217	**106,560**	133	**728,800**	198
287	310	**Willamette Industries** (Portland, Ore.)	**1,045,660**	**924,692**	273	**22,272**	348	**399,802**	288
288	333	**CertainTeed** (Valley Forge, Pa.)	**1,041,082**	**744,742**	298	**33,207**	295	**387,999**	294
289	267	**Parker Hannifin** (Cleveland)[2]	**1,038,289**	**776,527**	295	**29,487**	314	**454,079**	273
290	321	**Cyclops** (Pittsburgh)	**1,024,114**	**477,763**	374	**(2,190)**	433	**172,685**	428
291	289	**Perkin-Elmer** (Norwalk, Conn.)[13]	**1,015,402**	**891,713**	280	**50,242**	230	**515,245**	244
292	290	**Dover** (New York)	**1,009,674**	**704,446**	309	**77,543**	171	**502,657**	251
293	313	**Thomas J. Lipton** (Englewood Cliffs, N.J.)[22]	**1,005,654**	**636,590**	327	**64,547**	192	**376,023**	298
294	275	**Crane** (New York)	**1,002,772¶**	**575,916**	340	**(109,060)**	467	**253,217**	363
295	338	**NVF** (Yorklyn, Del.)	**1,000,000**	**N.A.**		**N.A.**		**N.A.**	
296	288	**G.D. Searle** (Skokie, Ill.)	**997,600**	**1,342,800**	212	**151,200**	104	**732,800**	196
297	263	**Chromalloy American** (St. Louis)	**997,467¶**	**735,324**	300	**(42,223)**	453	**276,839**	347
298	299	**Stanley Works** (New Britain, Conn.)	**983,694**	**703,566**	310	**52,953**	222	**435,431**	276
299	411	**Apple Computer** (Cupertino, Calif.)[10]	**982,769**	**556,579**	345	**76,714**	172	**377,901**	296
300	301	**Phelps Dodge** (New York)	**977,383**	**1,936,119**	168	**(63,497)**	457	**981,029**	157

● Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[28] Wholly owned by Bayer AG.

[29] Name changed from Airco October 1, 1983; wholly owned by BOCGroup plc.

[30] Wholly owned by BASF AG.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
20,700	181	4.5	202	14.1	159	4.17	3.83	1.05	14.73	72	40.11	167	26.50	58	36
5,732	408	2.8	328	6.9	355	N.A.	N.A.	N.A.	—		—		—		28
17,305†	213	—		—		(11.14)	(17.24)	1.30	—		70.51	53	10.69	318	45
12,482	263	4.0	232	9.5	278	3.83	3.15	1.81	7.78	198	26.69	253	5.09	394	34
13,726	242	9.8	37	20.5	39	2.52	2.20	0.51‡	17.32	45	15.16	332	33.49	22	27
13,871	241	4.0	233	5.4	380	1.61	0.73	1.58	0.19	322	36.63	183	(4.55)	452	38
1,504	492	7.6	71	14.8	140	2.65	2.01	1.94	3.17	272	64.20	72	0.46	433	10
27,000	147	3.9	238	10.5	249	3.73	2.92	1.25	11.51	113	31.49	220	25.15	74	23
12,574	259	—		—		(0.97)	N.A.	N.A.	—		—		—		37
18,400	202	5.4	144	17.6	79	2.94	6.84	1.13	10.03	141	135.20	6	19.56	149	45
35,640	110	—		—		(0.60)	(0.47)	0.64	—		113.07	11	12.39	286	36
21,500	176	4.3	210	12.3	201	5.10	4.27	1.88	10.52	134	39.54	169	23.21	96	22
21,078	180	4.1	224	7.4	337	2.57	4.25	0.96	10.35	138	30.74	224	14.49	229	38
8,033†	357	1.9	373	5.7	375	2.34	4.31	1.63	3.65	263	90.15	20	22.20	108	20
14,500	234	3.8	244	8.0	321	1.02	(1.82)	0.87	1.64	298	48.39	127	0.64	432	45
15,805	225	3.5	266	8.2	313	3.18	1.01	5.15	(4.71)	354	32.75	210	12.16	290	32
12,500	261	—		—		(1.64)	2.65	0.45	—		(1.85)	424	5.71	385	45
6,200	396	5.0	179	23.8	21	2.15	1.72	0.23	24.91	17	51.95	109	40.58	9	49
21,200	179	5.5	140	12.4	197	2.22	2.61	1.45	4.35	252	22.16	290	10.04	326	36
12,390	266	4.8	188	10.3	257	3.29	0.89	1.93	5.48	239	43.12	146	20.58	135	32
19,000	196	4.0	229	7.4	338	2.45	1.13	1.97	2.20	288	20.31	306	16.90	188	32
21,500	175	10.4	29	10.4	256	1.05	0.32	0.13	23.65	19	116.77	8	25.59	69	36
19,100	195	3.2	283	6.0	370	1.71	3.63	1.45	1.66	297	(10.82)	446	1.80	424	38
7,622	368	3.2	292	16.3§	104	4.32	4.07	1.39	11.97	109	8.87	373	16.74	194	20
13,000	254	2.3	352	13.0	187	3.13	2.14	2.55	2.07	291	13.95	338	20.32	142	20
10,700	288	4.6	196	10.9	236	2.10	2.74	1.75	1.84	295	5.94	386	6.38	379	42
12,177	269	3.2	291	7.1	344	N.A.	N.A.	N.A.	—		—		—		42
9,300	316	8.0	61	10.4	253	2.55	1.15	N.A.	—		68.16	60	—		49
13,000	255	2.5	342	3.8	397	0.84	(0.05)	2.11	(8.80)	370	(6.65)	437	9.10	339	26
24,800	157	10.9	22	29.9	7	3.64	2.81	0.52	21.54	25	56.34	95	27.51	50	23
8,400	344	7.2	80	19.0	54	2.02	1.44	0.52	14.53	73	48.93	122	27.66	46	27
10,800	286	4.5	199	4.8§	389	N.A.	N.A.	N.A.	—		—		—		28
14,462	236	3.1	297	8.5	301	1.48	1.20	1.87	(2.33)	344	61.72	80	16.29	207	45
12,500	262	3.0	307	10.7	243	3.16	2.28	1.41	8.37	180	53.76	104	16.46	203	45
3,875	465	1.6	384	5.5	378	N.A.	N.A.	N.A.	—		—		—		28
12,000	271	10.1	34	14.6	146	1.93	1.78	0.45	15.61	62	20.49	303	13.41	257	34
8,070	356	2.1	357	5.6	377	1.46	(0.60)	2.27	(4.33)	352	1.32	406	14.26	235	26
8,665	338	3.2	288	7.9§	323	1.73	(0.86)	2.20	(2.37)	345	9.46	368	7.49	367	32
18,346	203	2.8	323	6.5	364	1.17	2.31	1.15	0.20	321	71.44	49	16.69	196	34
8,300	347	—		—		(0.72)	(3.60)	2.44	—		95.23	17	20.04	144	33
14,372	237	5.0	180	9.8	271	1.15	1.45	0.45	9.72	149	5.29	389	7.44	368	38
13,498	244	7.7	67	15.4	120	2.18	2.52	0.49	16.01	53	0.31	409	26.59	57	45
5,392†	423	6.4	101	17.2	85	N.A.	N.A.	N.A.	—		—		—		20
10,873	285	—		—		(10.70)	(0.32)	1.64	—		35.68	189	22.53	104	33
N.A.		—		—		N.A.	(0.97)	0.22	—		23.08	281	21.71	115	33
10,000	300	15.2	3	20.6	38	3.04	2.77	1.24	9.38	158	6.09	385	8.09	359	42
12,090	270	—		—		(3.05)	(3.06)	2.18	—		25.68	257	5.43	389	34
13,925†	240	5.4	148	12.2	204	1.92	1.40	0.98	6.92	215	14.41	335	16.54	200	34
4,645	445	7.8	64	20.3	44	1.28	1.06	N.A.	—		(18.41)	454	—		44
9,151	321	—		—		(2.76)	(3.59)	5.30	—		(10.22)	444	(1.92)	442	33

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
301	303	**Pennwalt** (Philadelphia)	**976,741**	**872,524**	283	**44,796**	247	**478,619**	258
302	302	**General Instrument** (New York)[8]	**974,317**	**812,268**	293	**102,181**	139	**602,561**	222
303	269	**AMF** (White Plains, N.Y.)	**970,519**	**911,640**	276	**(1,494)****	430	**468,589**	264
304	329	**Hartmarx** (Chicago)[20,31]	**961,846**	**542,844**	349	**37,615**	275	**271,703**	351
305	285	**Mitchell Energy & Development** (The Woodlands, Tex.)[27]	**961,713**	**1,874,887**	170	**80,303**	167	**457,087**	270
306	324	**Tyler** (Dallas)	**960,923**	**500,233**	363	**18,449**	370	**175,189**	425
307	270	**Cameron Iron Works** (Houston)[2]	**955,864**	**1,140,643**	239	**3,335**	424	**546,351**	236
308	291	**Ex-Cell-O** (Troy, Mich.)[20]	**953,803**	**689,627**	316	**49,815**	231	**427,335**	278
309	306	**Hanson Industries** (Iselin, N.J.)[10,32]	**939,282**	**375,391**	427	**20,996**	362	**152,903**	442
310	293	**Timken** (Canton, Ohio)	**937,320**	**1,107,727**	242	**530**	428	**776,574**	187
311	318	**National Service Industries** (Atlanta)[21]	**936,350**	**494,188**	367	**55,374**	209	**334,380**	321
312	317	**General Cinema** (Chestnut Hill, Mass.)[14]	**928,566**	**619,157**	332	**98,519**	144	**259,096**	358
313	327	**Lone Star Industries** (Greenwich, Conn.)	**918,769**	**1,418,449**	207	**21,235****	361	**492,130**	256
314	326	**Clorox** (Oakland, Calif.)[2]	**913,807**	**603,875**	334	**65,507**	190	**325,998**	325
315	316	**Ball** (Muncie, Ind.)	**909,541**	**558,808**	344	**38,970**	270	**262,091**	356
316	300	**Sundstrand** (Rockford, Ill.)	**909,318**	**916,712**	275	**44,240**	249	**500,399**	253
317	335	**Potlatch** (San Francisco)	**906,745**	**1,156,023**	235	**40.467**	262	**545,398**	237
318	341	**EG&G** (Wellesley, Mass.)	**904,237**	**339,210**	443	**46,645**	241	**215,208**	390
319	309	**Quaker State Oil Refining** (Oil City, Pa.)	**902,690**	**551,671**	348	**36,574**	278	**283,571**	344
320	320	**Springs Industries** (Fort Mill, S.C.)	**894,443**	**602,198**	335	**37,051**	276	**419,049**	280
321	281	**Fairchild Industries** (Germantown, Md.)	**891,592**	**948,412**	269	**28,405**	316	**245,306**	367
322	283	**Storage Technology** (Louisville, Colo.)	**886,626**	**1,265,884**	218	**(40,867)**	452	**503,069**	250
323	342	**Washington Post** (Washington)	**877,714**	**570,676**	342	**68,394**	184	**318,890**	327
324	•	**Lafarge** (Dallas)	**867,874**	**1,028,531**	257	**(13,080)**	444	**404,174**	285
325	325	**Cluett Peabody** (New York)	**866,485**	**443,313**	392	**26,829**	328	**229,309**	377
326	360	**Dow Jones** (New York)	**866,437**	**700,207**	312	**114,224**	124	**416,814**	282
327	292	**Clark Equipment** (Buchanan, Mich.)	**862,247**	**845,770**	288	**12,414**	393	**476,681**	259
328	311	**CF Industries** (Long Grove, Ill.)	**862,048**	**1,013,497**	259	**N.A.**[16]		**471,831**	260
329	414	**Fleetwood Enterprises** (Riverside, Calif.)[17]	**858,025**	**282,620**	466	**29,740**	312	**160,857**	435
330	371	**A.O. Smith** (Milwaukee)	**853,372**	**437,608**	394	**13,628**	390	**206,110**	400
331	297	**Harsco** (Wormleysburg, Pa.)	**839,085**	**688,229**	318	**27,586**	323	**391,766**	291
332	349	**Interlake** (Oak Brook, Ill.)	**835,041**	**673,930**	320	**22,824**	344	**327,401**	324
333	357	**Dean Foods** (Franklin Park, Ill.)	**834,154**	**247,518**	476	**22,116**	350	**108,736**	466
334	377	**Tecumseh Products** (Tecumseh, Mich.)	**829,348**	**516,388**	356	**55,197**	212	**398,594**	289
335	339	**Data General** (Westboro, Mass.)[10]	**828,904**	**844,886**	289	**23,135**	342	**468,998**	263
336	337	**Brockway** (Brockway, Pa.)	**828,711**	**437,582**	395	**204**	429	**213,108**	392
337	260	**CBI Industries** (Oak Brook, Ill.)	**828,173**	**917,052**	274	**44,110**	251	**465,436**	267
338	355	**E-Systems** (Dallas)	**826,819**	**370,603**	430	**55,246**	211	**238,333**	373
339	362	**Vulcan Materials** (Birmingham, Ala.)	**820,519**	**734,715**	301	**54,182**	215	**460,095**	269
340	353	**Household Manufacturing** (Prospect Heights, Ill.)[33]	**807,500**	**671,300**	321	**22,000**	353	**445,000**	274
341	365	**Avery International** (Pasadena, Calif.)[20]	**805,223**	**469,487**	377	**34,230**	290	**241,067**	370
342	305	**Rexnord** (Milwaukee)[14]	**804,513**	**707,509**	308	**3,927**	421	**364,652**	305
343	340	**Lubrizol** (Wickliffe, Ohio)	**789,546**	**682,864**	319	**64,744**	191	**471,521**	261
344	346	**Outboard Marine** (Waukegan, Ill.)[10]	**788,501**	**649,107**	325	**39,266**	266	**345,919**	313
345	364	**Todd Shipyards** (New York)[9]	**788,181**	**347,684**	439	**30,170**	311	**124,370**	460
346	356	**Freeport-McMoRan** (New York)	**786,151**	**1,418,020**	208	**93,472**	150	**735,147**	195
347	433	**Fort Howard Paper** (Green Bay, Wis.)[34]	**785,976**	**1,199,727**	226	**106,980**	132	**754,730**	192
348	331	**National Cooperative Refinery Assoc.** (McPherson, Kans.)[2]	**784,360**	**399,474**	413	**N.A.**[16]		**146,664**	449
349	314	**Anchor Hocking** (Lancaster, Ohio)	**780,498¶**	**528,340**	354	**(4,337)****	438	**289,150**	341
350	469	**Amdahl** (Sunnyvale, Calif.)	**777,680**	**723,651**	304	**46,457**	242	**372,339**	301

● Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[31] Name changed from Hart Schaffner & Marx April 13, 1983.

[32] Wholly owned by Hanson Trust PLC.

[33] Wholly owned by Household International.

[34] Figures include Maryland Cup (1982 rank: 388), acquired August 31, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
9,786	306	4.6	197	9.4	283	3.58	2.10	2.13	5.33	243	42.93	150	13.80	246	28
24,500	158	10.5	27	17.0	89	3.34	3.01	0.34	25.85	13	(33.67)	459	23.82	86	36
18,738	197	—		—		(0.08)**	0.53	3.15	—		2.08	404	4.40	403	47
25,000	156	3.9	236	13.8	165	3.05	2.51	1.23	9.54	153	34.95	194	22.58	102	23
3,600	470	8.4	51	17.6	80	1.68	2.41	0.12	30.44	7	54.41	103	26.44	59	10
9,900	303	1.9	369	10.5	248	1.88	1.08	0.80	8.92	166	55.92	96	26.84	55	28
7,754	364	0.4	422	0.6	420	0.11	5.02	0.38	(11.74)	373	(4.64)	430	8.44	355	45
13,100†	250	5.2	157	11.7	219	3.51	3.25	1.38	9.78	146	55.1[illegible]	100	21.78	112	40
24,000†	163	2.2	354	13.7	168	N.A.	N.A.	N.A.	—		—		—		20
17,764	210	0.1	428	0.1	425	0.05	(0.27)	4.98	(36.88)	390	30.39	231	12.88	271	45
17,200	215	5.9	118	16.6	97	3.37	3.06	1.18	11.09	121	42.04	156	26.38	60	36
12,400†	264	10.6	25	38.0	2	5.24	2.38	0.42	28.63	9	56.39	94	35.48	17	49
8,714	333	2.3	351	1.4§	413	0.07**	0.05	2.57	(30.25)	388	(1.56)	422	11.48	302	32
5,600	413	7.2	82	20.1	46	2.72	1.90	1.23	8.26	182	11.15	357	12.92	270	43
9,471	313	4.3	211	14.9	138	3.47	3.16	0.77	16.17	49	13.01	347	27.59	47	34
13,400	245	4.9	184	8.8	293	2.42	3.77	1.09	8.30	181	14.89	334	18.10	165	41
8,704	334	4.5	201	5.7§	374	2.03	0.87	2.32	(1.35)	341	7.43	377	15.39	218	[illegible]6
19,800	191	5.2	161	21.7	30	1.56	1.38	0.20	22.65	22	(34.61)	460	23.49	91	38
4,658	444	4.1	226	12.9	189	1.66	1.77	1.09	4.32	254	16.51	322	3.61	415	29
18,000†	207	4.1	222	8.8	292	4.15	4.83	2.22	6.46	222	5.15	391	21.22	123	22
11,949	272	3.2	289	6.3§	366	1.51	1.90	(0.20)	—		31.72	218	32.80	25	41
15,732	226	—		—		(1.19)	1.88	0.37**	—		(35.88)	461	16.68	197	44
5,300	424	7.8	65	21.5	33	4.82	3.70	0.70	21.28	28	33.77	202	35.02	18	27
6,100	398	—		—		(0.41)	N.A.	N.A.	—		—		—		32
18,225	205	3.[illegible]	299	11.7	216	3.02	2.72	0.76	14.79	71	45.32	137	24.34	81	23
6,273	395	13.2	11	27.4	11	1.79	1.39	0.39	16.46	48	49.73	118	29.78	39	27
11,124	280	1.4	391	2.6	403	0.86	(12.10)	4.08	(14.42)	377	47.30	128	3.64	413	45
1,763	491	—		—		N.A.	N.A.	N.A.	—		—		—		28
8,800	332	3.5	264	18.5	65	1.33	0.41	0.52‡	9.85	145	30.28	232	32.99	24	37
9,893†	304	1.6	382	6.6	362	1.85	(2.28)	2.05	(1.04)	338	187.68	1	16.62	198	40
11,000	282	3.3	278	7.0	349	1.45	1.85	1.12	2.60	279	33.07	206	22.36	106	34
9,107	324	2.7	332	7.0	351	3.94	0.92	2.95	2.95	276	38.27	175	20.27	143	33
4,078	461	2.7	337	20.3	43	2.42	2.02	0.23	26.64	11	39.73	168	43.46	6	20
9,831†	305	6.7	95	13.9	164	10.09	7.49	5.39	6.47	219	19.87	307	17.69	176	45
14,855	230	2.8	326	4.9	386	0.96	1.14**	0.41	8.75	170	87.42	22	7.18	372	44
11,500	276	0.0	429	0.1	424	0.03	2.05	1.41	(31.97)	389	7.03	381	16.60	199	32
8,000	358	5.3	152	9.5	277	2.53	5.06	1.52	5.23	244	(19.29)	455	(3.28)	448	34
11,941	273	6.7	92	23.2	26	1.82	1.21	0.19	25.24	16	26.97	249	48.15	2	36
5,560	418	6.6	98	11.8	213	4.69	4.73	2.00	8.90	167	30.21	233	23.48	92	10
11,000	283	2.7	334	4.9	384	N.A.	N.A.	N.A.	—		—		—		34
7,926	360	4.3	213	14.2	155	1.84	1.49	0.69	10.23	139	52.92	107	6.86	374	28
11,749	275	0.5	417	1.1	416	0.19	0.35	1.14	(16.40)	381	61.09	84	14.59	227	45
4,165	459	8.2	54	13.7	169	1.65	1.21	0.90	6.19	228	22.43	287	5.20	392	28
9,192†	320	5.0	178	11.4	227	4.51	4.03	4.49	0.04	326	75.65	42	17.35	182	45
11,100†	281	3.8	242	24.3	18	6.27	6.01	0.09	52.04	1	4.34	394	20.46	139	37
4,800	439	11.9	17	12.7	191	1.32	0.95	0.52	9.66	152	34.96	193	17.92	171	10
14,655	232	13.6	10	14.2	156	3.78	3.43	0.54	21.48	26	17.92	313	24.23	83	26
553	498	—		—		N.A.	N.A.	N.A.	—		—		—		29
11,400	277	—		—		(0.45)**	1.25	1.81	—		84.10	27	20.84	130	32
6,300	393	6.0	117	12.5	196	1.03	0.34**	N.A.	—		24.87	268	—		44

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
351	409	**Hoover Universal** (Ann Arbor, Mich.)	**776,856**	**441,478**	393	**32,440**	300	**196,735**	409
352	354	**Wheeling-Pittsburgh Steel** (Pittsburgh)	**772,320**	**1,241,322**	221	**(54,080)**	455	**368,352**	303
353	351	**Kane-Miller** (Tarrytown, N.Y.)	**768,357**	**163,229**	492	**(4,962)**	439	**72,451**	482
354	345	**Champion Spark Plug** (Toledo)	**764,362**	**571,682**	341	**26,964**	327	**359,463**	308
355	386	**Dow Corning** (Midland, Mich.)	**763,063**	**865,961**	285	**68,400**	183	**462,481**	268
356	384	**Capital Cities Communications** (New York)	**762,295**	**1,052,912**	251	**114,704**	122	**625,255**	211
357	•	**Inspiration Resources** (New York)	**762,128**	**1,111,131**	241	**(82,657)**	462	**518,011**	243
358	374	**Varian Associates** (Palo Alto, Calif.)[10]	**760,250**	**598,732**	336	**44,881**	246	**362,489**	307
359	372	**National Starch & Chemical** (Bridgewater, N.J.)	**756,928**	**495,580**	366	**46,679**	240	**303,546**	336
360	334	**Midland-Ross** (Cleveland)	**755,168**	**702,722**	311	**(10,177)**	442	**276,740**	348
361	385	**Magic Chef** (Cleveland, Tenn.)[2]	**754,399**	**409,972**	409	**25,443**	333	**196,539**	410
362	336	**Reichhold Chemicals** (White Plains, N.Y.)	**747,263**	**384,757**	420	**21,700**	355	**183,565**	421
363	358	**Federal-Mogul** (Southfield, Mich.)	**746,984**	**580,757**	338	**41,068**	261	**303,859**	335
364	383	**Sun Chemical** (New York)	**746,609**	**501,978**	362	**9,529**	404	**162,180**	433
365	363	**McCormick** (Hunt Valley, Md.)[30]	**743,154**	**419,461**	403	**40,113**	264	**216,374**	387
366	373	**Scovill** (Waterbury, Conn.)	**742,572**	**490,398**	369	**27,379**	325	**242,366**	369
367	399	**Fuqua Industries** (Atlanta)	**732,443**	**468,603**	378	**41,622**	259	**135,657**	454
368	•	**NI Industries** (Long Beach, Calif.)	**724,675**	**464,437**	383	**38,611**	271	**149,685**	445
369	401	**American Greetings** (Cleveland)[8]	**722,431**	**580,675**	339	**44,582**	248	**316,368**	328
370	366	**Newmont Mining** (New York)	**720,912**	**2,091,150**	158	**52,901**	223	**1,477,255**	91
371	368	**Dayco** (Dayton, Ohio)[14]	**718,680**	**434,740**	396	**4,380**	418	**139,371**	452
372	369	**Gerber Products** (Fremont, Mich.)[9]	**718,605**	**431,172**	399	**39,045**	268	**282,916**	345
373	376	**Bemis** (Minneapolis)	**701,006**	**389,392**	415	**12,024**	394	**168,763**	431
374	394	**GAF** (New York)	**699,397**	**414,267**	407	**(3,841)****	437	**169,804**	429
375	284	**Smith International** (Newport Beach, Calif.)	**696,968**	**1,034,705**	255	**(94,553)**	464	**545,337**	238
376	389	**Pabst Brewing** (Milwaukee)	**687,035***	**243,915**	477	**3,605‡**	423	**37,003**	493
377	407	**Frederick & Herrud** (Southfield, Mich.)[12]	**686,118**	**125,434**	494	**3,708**	422	**31,621**	494
378	380	**Collins & Aikman** (New York)[8]	**682,947**	**386,560**	418	**23,116**	343	**201,373**	403
379	361	**Bell & Howell** (Chicago)	**679,248**	**472,061**	376	**41,191****	260	**212,190**	394
380	412	**Southwest Forest Industries** (Phoenix)	**678,163**	**716,746**	305	**(24,696)****	449	**198,800**	405
381	378	**Insilco** (Meriden, Conn.)	**674,224**	**622,398**	331	**34,317**	289	**253,134**	364
382	•	**Badische** (Williamsburg, Va.)[30]	**671,230**	**513,307**	358	**22,097‡**	352	**209,487**	397
383	431	**Sonoco Products** (Hartsville, S.C.)	**671,197**	**383,203**	421	**33,534**	292	**236,609**	374
384	379	**Economics Laboratory** (St. Paul)[2]	**671,140**	**375,669**	425	**(15,652)**	446	**188,132**	414
385	348	**Big Three Industries** (Houston)	**668,841**	**1,097,602**	244	**45,331**	245	**615,720**	216
386	367	**Figgie International Holdings** (Willoughby, Ohio)[35]	**667,859**	**459,950**	385	**21,355**	360	**184,875**	419
387	387	**Hoover** (North Canton, Ohio)	**666,847**	**338,587**	444	**28,006**	319	**179,996**	423
388	381	**Interstate Bakeries** (Kansas City, Mo.)[12]	**666,378**	**187,975**	487	**(10,110)****	441	**42,625**	489
389	390	**Nalco Chemical** (Oak Brook, Ill.)	**659,403**	**489,095**	370	**71,000**	178	**350,471**	312
390	282	**Joy Manufacturing** (Pittsburgh)[10]	**658,499**	**805,841**	294	**2,923**	426	**505,875**	247
391	498	**Stone Container** (Chicago)	**655,847**	**968,249**	264	**(2,922)**	435	**270,311**	352
392	418	**Harcourt Brace Jovanovich** (New York)	**648,827**	**466,048**	381	**27,476**	324	**183,691**	420
393	424	**Mohasco** (Amsterdam, N.Y.)	**643,831**	**369,265**	431	**13,096**	391	**204,418**	401
394	382	**Genesco** (Nashville)[13]	**639,761**	**326,795**	450	**(1,971)****	432	**88,770**	477
395	406	**M/A-Com** (Burlington, Mass.)[10]	**637,279**	**658,131**	323	**29,664**	313	**391,647**	292
396	359	**Kaiser Steel** (Fontana, Calif.)	**634,680¶**	**1,072,636**	249	**(422,770)****	485	**148,695**	447
397	403	**Scott & Fetzer** (Lakewood, Ohio)[30]	**629,563**	**445,067**	390	**32,224**	302	**214,867**	391
398	421	**Idle Wild Foods** (Worcester, Mass.)[21]	**628,848**	**128,743**	493	**4,396**	417	**61,502**	487
399	416	**Dennison Manufacturing** (Framingham, Mass.)	**628,659**	**382,895**	422	**31,385**	306	**210,971**	396
400	427	**Deluxe Check Printers** (St. Paul)	**619,695**	**402,947**	411	**76,605**	173	**284,908**	343

• Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[35] Name changed from Figgie International July 18, 1983.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
7,800	363	4.2	221	16.5	98	2.38	1.19	1.05	8.54	176	63.77	76	24.27	82	34
7,512†	371	—		—		(15.74)	(15.98)	4.45	—		83.47	28	9.36	337	33
3,000	478	—		—		(2.30)	1.68	2.16	—		35.20	191	11.08	310	20
12,600	258	3.5	259	7.5	334	0.70	0.70	1.38	(6.56)	362	3.76	396	2.40	422	36
5,763†	406	9.0	44	14.8	142	N.A.	N.A.	N.A.	—		—		—		28
7,890	361	15.1	5	18.4	67	8.53	7.25	1.30	20.65	35	20.54	302	24.97	76	27
6,025	401	—		—		(3.82)	(5.45)	4.46	—		(1.34)	419	(2.86)	444	10
13,600	243	5.9	119	12.4	199	2.14	1.47	0.49	15.88	58	70.69	51	27.53	49	36
5,161	425	6.2	112	15.4	122	N.A.	N.A.	N.A.	—		—		—		28
10,500	290	—		—		(0.83)	0.10	0.95	—		21.83	293	21.57	118	45
7,408	374	3.4	273	11.1§	233	2.71	0.78	0.98	10.71	130	79.25	31	26.35	61	36
4,410	453	2.9	317	10.4§	255	2.74	0.25	1.65	5.20	246	77.68	38	20.39	141	28
13,206	248	5.5	141	13.5	175	3.10	2.20	1.23	9.68	150	27.80	242	23.55	90	45
6,700	390	1.3	395	5.9	371	1.24	0.26	1.10	1.21	310	71.92	48	22.96	99	28
6,872†	385	5.4	146	18.5	63	3.22	2.02	0.73	16.00	54	16.92	318	7.56	365	20
16,823	219	3.7	251	11.3	228	2.53	2.10	2.59	(0.23)	329	23.04	282	17.36	181	36
8,968	328	5.7	132	30.7	5	4.26	2.45	0.85	17.49	44	74.04	44	26.69	56	45
9,000	326	5.3	150	25.8	14	2.12	(0.39)	N.A.	—		—		—		34
17,576	211	6.2	111	14.1	160	1.54	1.20	0.53	11.15	119	41.40	160	7.42	369	27
7,034	381	7.3	77	3.6	399	1.75	1.76	4.15	(8.27)	368	(5.91)	434	10.01	327	33
9,500	312	0.6	411	3.1	401	0.71	0.25	2.06	(10.09)	372	66.20	67	10.84	315	30
10,775†	287	5.4	145	13.8	167	2.92	3.07	1.23	9.06	162	78.48	34	22.05	110	20
8,124	352	1.7	378	7.1	347	1.67	1.35	1.32	2.39	286	27.16	247	17.42	180	26
4,000	464	—		—		(0.47)**	3.71**	1.85	—		19.11	310	11.78	298	29
7,739	365	—		—		(4.17)	3.61	0.51	—		(21.82)	456	6.05	382	45
2,851	482	0.5	415	9.7	272	0.31‡	0.08	0.63	(6.81)	365	59.52	87	6.62	375	49
2,700	485	0.5	414	11.7	214	1.05	0.56	0.48	8.08	185	—		—		20
9,150†	322	3.4	271	11.5	225	2.20	1.71	1.35	5.00	249	78.12	36	24.83	78	22
9,508	309	6.1	116	19.4	50	3.59**	(0.52)	3.36	0.66	316	63.68	78	13.57	251	38
6,200	397	—		—		(3.34)**	(3.63)	2.14	—		30.53	230	9.71	333	26
7,600	370	5.1	166	13.6	173	2.00	0.83	0.97	7.47	205	6.53	383	21.14	125	28
4,243	457	3.3	277	10.6	247	N.A.	N.A.	N.A.	—		—		—		28
10,055	297	5.0	173	14.2	157	3.08	2.63	0.93	12.77	99	37.71	179	21.72	114	26
6,772	387	—		—		(1.16)	2.44	0.94	—		15.77	328	0.98	429	43
5,104	427	6.8	89	7.4	336	1.07	2.05	0.38	10.82	124	(1.24)	418	13.21	265	28
12,500	260	3.2	285	11.6	221	3.62	4.18	1.25	11.22	116	23.55	276	21.14	126	45
14,788	231	4.2	218	15.6	117	2.27	0.32	2.50	(0.96)	336	147.78	4	9.81	330	36
11,000	284	—		—		(2.14)**	0.60**	0.08**	—		51.35	113	14.08	238	20
4,596	448	10.8	23	20.3	45	1.78	1.46	1.25	3.60	265	10.83	358	11.37	305	28
6,789	386	0.4	420	0.6	421	0.15	4.27	0.78	(15.24)	379	33.97	200	9.64	334	45
8,900	330	—		—		(0.31)	1.46	0.73	—		96.24	16	30.31	35	26
8,674	336	4.2	215	15.0	134	3.03	0.36	1.08	10.87	123	53.42	106	18.06	166	27
11,750	274	2.0	360	6.4§	365	1.96	(1.17)	2.21	(1.19)	339	35.88	187	9.57	335	25
13,200	249	—		—		(0.29)**	(0.09)	(4.54)‡	—		70.27	54	4.91	396	31
9,508	310	4.7	195	7.6	332	0.72	0.88	0.19	14.22	77	(13.23)	448	26.87	54	36
2,962	481	—		—		(43.18)**	0.29**	7.53	—		92.73	18	13.32	261	33
14,081†	239	5.1	165	15.0	131	4.80	4.04	2.76	5.69	235	24.18	272	13.01	268	36
1,800	490	0.7	410	7.2	342	2.42	4.92	2.26	0.69	315	12.17	351	—		20
8,380	346	5.0	174	14.9	137	3.10	2.10	1.31	8.97	164	53.60	105	24.45	80	26
10,237	292	12.4	15	26.9	13	3.37	2.83	0.58	19.14	40	2.15	403	13.37	259	27

RANK		**COMPANY**	**SALES**	**ASSETS**		**NET INCOME**		**STOCKHOLDERS' EQUITY**	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
401	405	**Ferro** (Cleveland)	**619,179**	**367,262**	433	**19,228**	366	**187,738**	415
402	448	**MEI** (Minneapolis)	**616,463**	**429,618**	400	**38,275**	272	**169,193**	430
403	392	**Briggs & Stratton** (Wauwatosa, Wis.)[2]	**613,807**	**387,780**	416	**31,762**	304	**261,054**	357
404	391	**Sybron** (Rochester, N.Y.)	**612,898¶**	**467,567**	379	**(26,701)**	451	**207,464**	399
405	449	**Sheller-Globe** (Toledo)[10]	**607,942**	**417,119**	404	**16,612**	375	**198,938**	404
406	415	**Brown-Forman Distillers** (Louisville)[17]	**604,852***	**635,058**	328	**95,176**	147	**467,552**	265
407	425	**Tyson Foods** (Springdale, Ark.)[10]	**603,537**	**254,572**	474	**11,069**	400	**66,760**	485
408	442	**Arvin Industries** (Columbus, Ind.)	**600,605**	**328,055**	449	**18,338**	372	**189,030**	413
409	482	**Maytag** (Newton, Iowa)	**596,988**	**322,100**	453	**60,691**	200	**222,125**	380
410	444	**Coleco Industries** (West Hartford, Conn.)	**596,498**	**477,880**	373	**(7,433)**	440	**89,419**	476
411	417	**Armstrong Rubber** (New Haven, Conn.)[10]	**594,670**	**375,651**	426	**18,753**	369	**187,268**	416
412	434	**M. Lowenstein** (New York)	**584,879**	**363,396**	436	**22,178**	349	**186,180**	417
413	435	**Raychem** (Menlo Park, Calif.)[2]	**582,702**	**499,178**	364	**30,511**	310	**286,951**	342
414	413	**Wm. Wrigley Jr.** (Chicago)	**581,688**	**324,103**	451	**39,164**	267	**238,650**	372
415	487	**Sanders Associates** (Nashua, N.H.)[13]	**578,128**	**466,294**	380	**37,046**	277	**281,006**	346
416	344	**ACF Industries** (New York)	**576,633**	**1,173,062**	231	**1,846****	427	**366,528**	304
417	●	**Gulfstream Aerospace** (Savannah, Ga.)	**576,327**	**516,217**	357	**53,134**	220	**192,635**	411
418	450	**Handy & Harman** (New York)	**575,900**	**386,341**	419	**10,610**	401	**129,735**	457
419	426	**Tyco Laboratories** (Exeter, N.H.)[12]	**573,930**	**387,756**	417	**21,475**	358	**156,672**	437
420	437	**Consolidated Papers** (Wisconsin Rapids, Wis.)	**573,346**	**486,245**	371	**48,975**	235	**362,811**	306
421	400	**Kellwood** (St. Louis)[17]	**573,168**	**288,759**	464	**11,086**	399	**91,199**	474
422	●	**Smithfield Foods** (Arlington, Va.)[17]	**570,615**	**86,585**	499	**2,946**	425	**17,372**	496
423	445	**Federal Paper Board** (Montvale, N.J.)	**568,999**	**555,554**	346	**12,458**	392	**174,941**	427
424	446	**Bausch & Lomb** (Rochester, N.Y.)	**567,607**	**497,494**	365	**42,664**	254	**267,935**	354
425	420	**Rohr Industries** (Chula Vista, Calif.)[13]	**567,538**	**332,282**	447	**24,125**	338	**149,218**	446
426	404	**Nashua** (Nashua, N.H.)	**565,656**	**271,968**	470	**16,355****	377	**108,533**	467
427	397	**AM International** (Chicago)[18]	**564,690**	**382,033**	423	**6,829****	413	**(79,523)**	498
428	457	**Echlin** (Branford, Conn.)[21]	**564,497**	**398,077**	414	**30,732**	308	**232,073**	376
429	462	**A.H. Robins** (Richmond, Va.)	**563,510**	**509,663**	360	**58,221**	204	**355,837**	311
430	●	**Michigan Milk Producers Association** (Southfield, Mich.)[10]	**562,038**	**90,010**	498	**N.A.**[16]		**25,192**	495
431	439	**Dexter** (Windsor Locks, Conn.)	**561,384**	**409,985**	408	**27,321**	326	**186,118**	418
432	441	**Dr Pepper** (Dallas)	**560,415**	**365,252**	435	**21,590**	357	**156,167**	439
433	352	**Cincinnati Milacron** (Cincinnati)	**559,017**	**628,652**	329	**(10,279)**	443	**302,268**	337
434	375	**Bucyrus-Erie** (South Milwaukee, Wis.)	**551,533**	**536,923**	351	**(133,003)**	471	**257,722**	361
435	455	**Fieldcrest Mills** (Eden, N.C.)	**550,515**	**333,893**	446	**15,060**	383	**175,001**	426
436	393	**H.H. Robertson** (Pittsburgh)	**549,560**	**341,175**	442	**17,228**	373	**161,014**	434
437	429	**Westmoreland Coal** (Philadelphia)	**549,287**	**404,441**	410	**15,287**	381	**218,105**	383
438	395	**Bangor Punta** (Greenwich, Conn.)[10]	**547,726**	**491,798**	368	**(64,429)**	459	**155,976**	440
439	459	**Nucor** (Charlotte, N.C.)	**542,531**	**425,567**	401	**27,864**	322	**258,130**	360
440	447	**Datapoint** (San Antonio)[13]	**540,192**	**586,674**	337	**8,077**	409	**329,963**	322
441	464	**Shaklee** (San Francisco)[10]	**538,726**	**261,795**	472	**35,145**	288	**151,125**	444
442	402	**Foxboro** (Foxboro, Mass.)	**533,102**	**432,977**	398	**7,977**	410	**310,592**	330
443	436	**Eagle-Picher Industries** (Cincinnati)[20]	**532,653**	**379,785**	424	**15,348**	380	**222,786**	379
444	408	**Stokely-Van Camp** (Indianapolis)[12]	**525,214**	**272,568**	469	**15,266**	382	**152,255**	443
445	332	**Cessna Aircraft** (Wichita)[10]	**524,395**	**698,787**	313	**(18,845)**	447	**327,782**	323
446	470	**Flowers Industries** (Thomasville, Ga.)[2]	**522,254**	**233,180**	481	**19,214**	367	**114,295**	465
447	443	**Sun-Diamond Growers of California** (Stockton, Calif.)[13]	**522,199**	**334,669**	445	**N.A.**[16]		**62,531**	486
448	452	**Universal Foods** (Milwaukee)[10]	**520,128**	**242,350**	480	**20,601**	363	**119,380**	462
449	454	**Georgia Kraft** (Rome, Ga.)	**516,877**	**625,605**	330	**32,213**	303	**320,826**	326
450	488	**Oxford Industries** (Atlanta)[12]	**516,677**	**186,375**	489	**22,654**	346	**107,232**	468

● Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

* Does not include excise taxes; see the explanation of "sales" on page 322.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

[34] FORTUNE estimate.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
8,090†	354	**3.1**	298	**10.2**	258	**3.04**	**1.37**	**2.45**	**2.20**	289	**30.62**	226	**13.95**	244	28
4,800	440	**6.2**	110	**22.6**	28	**2.27**	**1.90**	**0.20**	**27.18**	10	**25.88**	255	**43.89**	4	49
9,254	318	**5.2**	160	**12.2**	203	**2.20**	**2.72**	**1.86**	**1.67**	296	**(9.15)**	442	**8.57**	351	45
8,831	331	—		—		**(2.93)**	**0.49**	**1.80**	—		**40.95**	163	**3.26**	417	38
10,204	293	**2.7**	333	**8.4**	309	**1.93**	**1.83**	**1.85**	**0.40**	320	**42.75**	151	**22.49**	105	40
2,503	488	**15.7**	1	**20.4**	42	**3.76**	**3.43**	**0.65**	**19.19**	39	**(6.95)**	438	**19.92**	146	49
9,200	319	**1.8**	375	**16.6**	95	**1.42**	**1.21**	**0.56**	**9.73**	148	**41.11**	162	**27.17**	53	20
10,128	296	**3.1**	305	**9.7**	273	**2.37**	**1.40**	**1.19**	**7.09**	213	**33.53**	204	**16.20**	210	40
4,703†	442	**10.2**	33	**27.3**	12	**4.37**	**2.68**	**2.20**	**7.10**	212	**43.39**	144	**14.53**	228	36
5,000	429	—		—		**(0.48)**	**2.90**	**(0.08)**	—		**(46.94)**	462	**13.43**	256	47
4,927	435	**3.2**	294	**10.0**	264	**4.83**	**4.31**	**1.67**	**11.17**	118	**13.69**	342	**20.65**	133	30
10,000	301	**3.8**	243	**11.9**	212	**6.62**	**4.63**	**3.10**	**7.88**	191	**51.16**	115	**19.43**	151	22
8,618	339	**5.2**	156	**10.6**	244	**3.23**	**4.07**	**0.76**	**15.59**	63	**18.18**	312	**7.03**	373	36
5,600	417	**6.7**	91	**16.4**	101	**5.12**	**4.57**	**2.52**	**7.35**	207	**36.93**	180	**13.72**	249	20
9,394	315	**6.4**	102	**13.2**	183	**4.08**	**3.30**	**1.30****	**12.12**	106	**63.98**	74	**31.28**	30	36
7,437	373	**0.3**	425	**0.5**	422	**0.22****	**3.74**	**3.07**	**(23.16)**	385	**57.98**	91	**9.02**	342	37
3,550	471	**9.2**	42	**27.6**	10	**1.62**	**1.41**	**N.A.**	—		—		—		41
5,481	421	**1.8**	374	**8.2**	315	**0.77**	**0.61**	**0.39**	**7.13**	211	**(6.50)**	436	**23.39**	93	33
7,135	378	**3.7**	248	**13.7**	170	**2.47**	**2.56**	**0.81****	**11.79**	111	**64.00**	73	**21.68**	117	26
4,934†	434	**8.5**	49	**13.5**	176	**4.50**	**3.68**	**1.39**	**12.43**	102	**67.50**	64	**29.97**	36	26
15,000	228	**1.9**	366	**12.2**	205	**3.16**	**2.35**	**2.08‡,34**	**4.27**	256	**37.96**	177	**13.97**	242	23
3,000	479	**0.5**	416	**17.0**	88	**1.00**	**0.72**	**0.48**	**7.62**	201	**18.97**	311	**18.17**	163	20
4,300	456	**2.2**	355	**7.1**	348	**1.97**	**2.62**	**1.81**	**0.85**	313	**65.46**	69	**22.63**	101	26
8,155	350	**7.5**	72	**15.9**	110	**1.71**	**1.24**	**0.49**	**13.31**	89	**12.70**	348	**13.08**	266	38
7,700	366	**4.3**	214	**15.0§**	129	**3.68**	**2.85**	**1.51**	**9.32**	159	**157.02**	3	**10.06**	324	41
5,106	426	**2.9**	318	**15.1**	127	**3.48****	**(8.66)**	**2.55**	**3.16**	273	**145.12**	5	**(0.16)**	437	44
10,475	291	**1.2**	398	—		**0.67****	**(8.11)**	**0.55****	**1.99**	292	**68.42**	59	**(7.34)**	454	38
7,600	369	**5.4**	143	**13.2**	182	**1.50**	**1.30**	**0.66**	**8.56**	175	**24.97**	266	**6.58**	376	40
5,700	410	**10.3**	30	**16.4**	103	**2.40**	**1.98**	**0.97**	**9.48**	155	**28.14**	240	**4.70**	398	42
761	496	—		—		**N.A.**	**N.A.**	**N.A.**	—		—		—		20
5,600	414	**4.9**	183	**14.7**	145	**1.77**	**1.59**	**0.51**	**13.21**	92	**31.80**	217	**21.19**	124	28
4,032	463	**3.9**	240	**13.8**	166	**0.93**	**0.58**	**0.51**	**6.19**	227	**75.96**	40	**4.28**	406	49
9,283†	317	—		—		**(0.46)**	**0.53**	**0.44**	—		**31.90**	216	**25.67**	66	45
4,328	455	—		—		**(6.51)**	**1.26**	**0.93**	—		**21.53**	295	**0.91**	430	45
11,161	279	**2.7**	331	**8.6**	299	**3.89**	**2.73**	**2.62**	**4.03**	259	**33.62**	203	**18.35**	161	22
6,875	384	**3.1**	296	**10.7**	242	**3.23**	**5.57**	**1.48**	**8.08**	186	**75.48**	43	**28.56**	42	34
3,321	475	**2.8**	327	**7.0**	350	**1.91**	**1.14**	**0.69**	**10.72**	128	**66.90**	65	**8.41**	356	10
8,417†	342	—		—		**(9.11)**	**0.34**	**0.09**	—		**51.62**	112	**27.93**	45	41
3,700	467	**5.1**	163	**10.8**	239	**1.98**	**1.59**	**0.46**	**15.82**	59	**37.71**	178	**34.59**	20	33
8,914	329	**1.5**	388	**2.5**	405	**0.40**	**0.12**	**0.28**	**3.63**	264	**49.66**	119	**23.81**	87	44
1,500	493	**6.5**	99	**23.3**	24	**2.71**	**1.90**	**0.35**	**22.71**	21	**8.98**	372	**13.78**	248	20
10,200	294	**1.5**	387	**2.6**	404	**0.65**	**2.81**	**0.74**	**(1.32)**	340	**2.23**	401	**8.56**	352	38
8,100	353	**2.9**	320	**6.9**	353	**1.58**	**1.17**	**1.49**	**0.58**	318	**85.07**	24	**17.21**	185	45
4,600	447	**2.9**	315	**10.0**	263	**5.29**	**4.59**	**2.26**	**8.88**	168	—		—		20
7,657†	367	—		—		**(0.98)**	**0.94**	**1.36**	—		**6.98**	382	**19.94**	145	41
10,000	299	**3.7**	254	**16.7§**	91	**1.25**	**1.15**	**0.30**	**15.33**	67	**86.91**	23	**32.32**	26	20
2,756†	484	—		—		**N.A.**	**N.A.**	**N.A.**	—		—		—		20
3,400	474	**4.0**	234	**17.3**	83	**2.91**	**2.62**	**0.70**	**15.35**	66	**16.93**	317	**23.70**	88	20
3,100	476	**6.2**	108	**10.0**	262	**N.A.**	**N.A.**	**N.A.**	—		—		—		26
12,275	267	**4.4**	207	**21.1**	36	**3.92**	**2.83**	**1.70**	**8.68**	171	**68.07**	61	**38.45**	11	23

RANK		COMPANY	SALES	ASSETS		NET INCOME		STOCKHOLDERS' EQUITY	
1983	1982		$ THOUSANDS	$ THOUSANDS	RANK	$ THOUSANDS	RANK	$ THOUSANDS	RANK
451	489	**Prime Computer** (Natick, Mass.)	516,503	444,740	391	32,503	299	268,179	353
452	422	**Revere Copper & Brass** (New York)	508,326	347,167	440	15,042	384	46,693	488
453	495	**Media General** (Richmond, Va.)	507,784	474,703	375	35,907	281	245,206	368
454	•	**ROLM** (Santa Clara, Calif.)[2]	502,642	519,915	355	35,543	284	381,719	295
455	480	**Illinois Tool Works** (Chicago)	497,821	449,811	389	49,588	233	339,952	316
456	453	**Warnaco** (Bridgeport, Conn.)	497,260	278,628	467	28,342	317	164,606	432
457	499	**Easco** (Baltimore)	492,620	269,907	471	9,376	405	116,817	464
458	396	**Amsted Industries** (Chicago)[10]	490,166	465,064	382	(3,800)	436	357,189	310
459	465	**Royal Crown Companies** (Atlanta)	490,067	251,441	475	14,982	385	123,378	461
460	438	**American Bakeries** (New York)	489,811	111,627	496	4,273**	419	38,030	492
461	483	**Savannah Foods & Industries** (Savannah, Ga.)	487,712	178,645	490	25,982	330	91,649	473
462	494	**Roper** (Kankakee, Ill.)[13]	481,143	208,502	485	11,452	397	88,679	478
463	•	**Coachmen Industries** (Middlebury, Ind.)	478,742	123,351	495	23,388	340	79,204	481
464	423	**United Merchants & Manufacturers** (New York)[2]	478,309	366,238	434	(2,711)**	434	156,388	438
465	370	**Trinity Industries** (Dallas)[9]	477,017	368,760	432	16,501	376	182,702	422
466	•	**Rorer Group** (Fort Washington, Pa.)	475,289	422,849	402	42,445	256	220,589	381
467	456	**Palm Beach** (Cincinnati)	472,394	225,000	483	13,944	387	91,180	475
468	•	**Guardian Industries** (Northville, Mich.)	469,342	502,557	361	38,123	273	212,208	393
469	472	**Ceco** (Oak Brook, Ill.)	465,178	243,529	479	11,750	395	138,626	453
470	478	**International Flavors & Fragrances** (New York)	460,945	458,262	386	68,410	182	344,255	315
471	476	**Liquid Air** (San Francisco)	459,409	535,561	352	23,902	339	255,837	362
472	493	**Cooper Tire & Rubber** (Findlay, Ohio)	457,780	243,665	478	21,406	359	139,601	451
473	491	**Phillips-Van Heusen** (New York)[27]	454,975	211,872	484	8,757	406	103,473	471
474	492	**Snap-on Tools** (Kenosha, Wis.)	454,748	372,350	429	42,974	253	258,941	359
475	486	**Worthington Industries** (Columbus, Ohio)[12]	449,571	301,283	461	19,870	364	127,218	458
476	•	**Cooper Labs** (Palo Alto, Calif.)[14]	448,595¶	346,179	441	25,500	332	211,547	395
477	•	**Prentice-Hall** (Englewood Cliffs, N.J.)	448,206	402,572	412	39,035	269	216,176	388
478	500	**Ametek** (New York)	448,152	309,236	457	37,753**	274	175,683	424
479	474	**Meredith** (Des Moines)[2]	447,755	415,657	405	32,289	301	196,855	408
480	485	**Wisconsin Dairies Cooperative** (Baraboo, Wis.)[9]	447,555	95,540	497	N.A.[16]		42,040	490
481	460	**Peabody International** (Stamford, Conn.)[10]	446,727	285,946	465	8,439	407	126,516	459
482	473	**Dorsey** (Chattanooga, Tenn.)	446,453	186,736	488	10,093	402	81,949	480
483	496	**Diebold** (Canton, Ohio)	445,917	330,632	448	49,142	234	235,637	375
484	432	**Holly** (Dallas)[13]	444,643	175,514	491	6,523	414	68,999	483
485	•	**Harte-Hanks Communications** (San Antonio)	443,630	485,160	372	33,331	294	251,270	365
486	•	**Bairnco** (New York)	442,278	356,904	437	22,670	345	132,358	456
487	•	**Rubbermaid** (Wooster, Ohio)	436,437	300,316	462	35,655	283	197,007	407
488	•	**Hillenbrand Industries** (Batesville, Ind.)[20]	432,530	351,033	438	35,678	282	215,428	389
489	•	**Macmillan** (New York)	430,515	373,284	428	25,061	335	158,612	436
490	•	**Harvey Hubbell** (Orange, Conn.)	427,893	322,892	452	32,585	296	247,339	366
491	•	**Pittway** (Northbrook, Ill.)	426,777	314,690	455	26,276	329	218,667	382
492	430	**Oak Industries** (Rancho Bernardo, Calif.)	426,418	451,800	387	(166,113)	478	86,415	479
493	•	**H.B. Fuller** (St. Paul)[20]	425,541	225,913	482	13,832	388	92,212	472
494	•	**Sealed Power** (Muskegon, Mich.)	424,622	301,540	460	29,050	315	207,683	398
495	•	**Tracor** (Austin, Tex.)	424,620	306,305	459	24,565	336	154,175	441
496	419	**Moore McCormack Resources** (Stamford, Conn.)	423,444	967,444	265	11,533	396	373,493	300
497	410	**Hyster** (Portland, Ore.)[27]	422,169	450,330	388	7,279	412	305,244	334
498	•	**Riegel Textile** (Greenville, S.C.)[10]	418,777	273,693	468	7,958	411	148,374	448
499	481	**Masonite** (Chicago)[21]	418,704	312,848	456	15,691	379	203,180	402
500	•	**Tandem Computers** (Cupertino, Calif.)[10]	418,282	415,525	406	30,805	307	310,993	329
		TOTALS	1,686,697,547	1,353,895,273		68,787,930		631,679,804	

• Indicates that a corporation was not among the 500 in 1982.

¶ Includes sales from discontinued operations of at least 10%; see the explanation of "sales" on page 322.

N.A. Not available.

** Reflects an extraordinary credit of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

† Average for the year; see the reference to "employees" on page 322.

‡ Reflects an extraordinary charge of at least 10%; see the explanations of "net income" and "earnings per share" on page 322.

§ Dividends paid by company on its mandatory redeemable preferred stock were subtracted from net income in calculating this figure.

EMPLOYEES		NET INCOME AS PERCENT OF				EARNINGS PER SHARE					TOTAL RETURN TO INVESTORS				INDUSTRY CODE
		SALES		STOCKHOLDERS' EQUITY					1973-83 GROWTH RATE		1983		1973-83 AVERAGE		
NUMBER	RANK	PERCENT	RANK	PERCENT	RANK	1983/$	1982/$	1973/$	PERCENT	RANK	PERCENT	RANK	PERCENT	RANK	
5,927	402	6.3	106	12.1	207	0.68	0.99	(0.17)	—		(23.65)	457	—		44
4,550†	449	3.0	311	32.2	3	2.64	(27.61)	0.43	19.90	37	89.58	21	4.64	399	33
4,700	443	7.1	85	11.7§	217	5.07	4.60	1.20	15.45	65	32.85	209	21.86	111	27
7,049	380	7.1	86	9.3	284	1.80	1.70	N.A.	—		(0.74)	414	—		36
7,300	376	10.0	35	14.6	147	3.98	3.26	1.61	9.47	156	42.13	155	11.50	301	34
9,506	311	5.7	130	17.2	84	2.80	2.58	1.25	8.38	179	24.46	270	25.63	68	23
5,692	411	1.9	370	7.8§	326	1.50	1.87	1.39	0.79	314	44.39	140	18.48	159	34
6,900	382	—		—		(0.35)	1.65	1.38	—		38.51	173	18.74	154	33
5,000	432	3.1	304	12.1	206	1.80	1.94	1.53	1.64	300	48.63	125	12.68	278	49
7,500	372	0.9	405	10.8§	237	1.63**	(4.30)	(1.06)	—		25.56	258	17.90	172	20
905	494	5.3	151	28.4	9	7.38	5.61	0.88	23.63	20	78.04	37	28.11	44	20
4,600	446	2.4	349	12.9	188	1.82	0.71	0.73	9.53	154	116.14	10	28.77	41	45
4,509	451	4.9	182	29.5	8	2.78	0.80	0.17	31.86	5	116.49	9	49.19	1	37
9,000	327	—		—		(0.35)**	14.12**	3.31	—		71.19	50	(0.58)	439	22
3,800	466	3.5	265	9.0	287	1.05	2.36	0.22	16.98	46	91.00	19	27.43	51	34
5,508	419	8.9	45	19.2	52	2.02	1.82	1.74	1.50	304	27.76	243	9.78	331	42
7,320	375	3.0	313	14.5§	149	3.60	2.29	0.82	15.89	57	49.45	120	34.11	21	23
4,951	433	8.1	57	18.0	74	1.68	1.48	0.38	15.90	56	(4.92)	431	22.26	107	32
7,109	379	2.5	343	8.5	303	2.34	2.11	1.83	2.47	283	41.28	161	17.34	183	34
3,673	469	14.8	6	19.9	48	1.87	1.73	0.73	9.86	144	2.41	400	(0.87)	440	43
4,066	462	5.2	158	8.8§	294	1.80	2.13	N.A.	—		25.87	256	—		28
4,455	452	4.7	193	15.3	124	2.15	2.21	0.50	15.76	60	(11.76)	447	28.93	40	30
8,000	359	1.9	368	8.5	304	3.08	2.54	2.05	4.15	258	133.85	7	24.04	85	23
5,448	422	9.5	41	16.6	94	2.12	1.84	0.68	12.04	108	17.04	316	5.68	386	34
3,700	468	4.4	204	15.6	116	1.20	1.16	0.16	22.44	23	64.58	71	41.66	7	33
6,300	394	5.7	133	12.1	209	1.60	1.38	(0.42)	—		(0.86)	415	30.33	34	42
5,800	405	8.7	48	18.1	70	3.93	3.66	1.85	7.83	193	7.42	378	15.83	216	27
5,900	403	8.4	50	21.5	32	1.74**	1.25	0.45	14.48	74	68.82	58	29.96	37	38
2,844	483	7.2	79	16.4	102	3.56	2.86	(1.00)‡	—		54.78	101	37.06	13	27
628†	497	—		—		N.A.	N.A.	N.A.	—		—		—		20
4,850	437	1.9	372	6.7	359	0.78	0.47	1.07	(3.14)	350	67.82	63	14.43	231	45
5,000	430	2.3	353	12.0§	211	3.02	(1.22)	0.88	13.12	93	(5.91)	435	25.89	65	30
5,824	404	11.0	21	20.9	37	5.65	4.80	1.38	15.15	69	5.54	387	16.45	204	36
362	499	1.5	389	9.5	279	0.80	1.25	0.18**	16.09	52	30.76	223	18.71	155	29
10,021	298	7.5	73	13.3	181	1.58	1.39	0.79	7.18	209	29.37	236	31.94	28	27
4,235†	458	5.1	164	17.1	86	3.58	3.32	0.36	25.82	14	58.85	89	41.25	8	36
3,456	473	8.2	56	18.1	69	2.30	1.78	0.64	13.56	84	32.75	211	10.06	323	30
5,600	415	8.3	53	16.6	96	1.78	3.09	1.02	5.73	234	33.02	207	21.36	120	47
6,100	399	5.8	122	15.8	113	2.60	1.81	1.23	7.78	197	24.76	269	12.56	280	27
5,671	412	7.6	68	13.2	184	2.60	2.85	1.26	7.48	204	15.18	330	14.77	224	36
5,600	416	6.2	113	12.0	210	5.60	5.89	1.67	12.88	97	21.43	297	16.26	208	36
9,400	314	—		—		(10.17)	0.25	0.92	—		(58.71)	464	8.94	344	36
4,100	460	3.3	281	15.0	130	2.98	2.06	0.73	15.10	70	70.58	52	31.69	29	28
4,861†	436	6.8	88	14.0	163	2.38	1.88	0.88	10.51	135	22.73	284	25.45	70	40
8,300	348	5.8	126	15.9	109	1.60	1.37	0.55**	11.35	115	13.19	345	37.82	12	36
2,700	486	2.7	335	3.1	402	1.33	0.78	1.01	2.76	277	7.96	376	27.36	52	32
4,799	441	1.7	377	2.4	406	1.20	5.61	2.33	(6.42)	361	75.82	41	18.02	167	45
8,400	345	1.9	371	0.8§	418	2.13	2.26	2.21	(0.38)	330	23.01	283	21.27	122	22
5,010	428	3.8	247	7.7	328	3.67	(1.44)	6.12	(4.99)	355	(0.90)	416	5.22	391	26
4,396	454	7.4	76	9.9	268	0.76	0.76	N.A.	—		38.42	174	—		44
14,052,725															

TOTAL RETURN TO INVESTORS, 1983

THE TEN HIGHEST

	SALES RANK	
A.O. Smith	330	187.68%
International Harvester	104	170.59
Rohr Industries	425	157.02
Hoover	387	147.78
Nashua	426	145.12
Brunswick	260	135.20
Phillips-Van Heusen	473	133.85
Intel	272	116.77
Coachmen Industries	463	116.49
Roper	462	116.14

THE FIVE LOWEST

Mattel	248	-68.57%
Oak Industries	492	-58.71
Tosco	153	-55.06
Coleco Industries	410	-46.94
Storage Technology	322	-35.88

THE INDUSTRY MEDIANS

Beverages	48.63%
Motor vehicles	42.75
Metal manufacturing	42.50
Apparel	41.64
Shipbuilding, railroad and transportation equipment	39.44
Mining, crude-oil production	36.79
Chemicals	34.41
Industrial and farm equipment	34.39
Paper, fiber, and wood products	34.12
Metal products	33.07
Aerospace	32.91
Textiles, vinyl flooring	32.25
Office equipment (includes computers)	28.75
Publishing, printing	27.07
Electronics, appliances	26.84
Food	26.02
Measuring, scientific, photographic equipment	23.79
Petroleum refining	22.39
Rubber, plastic products	13.69
Glass, concrete, abrasives, gypsum	9.46
Pharmaceuticals	7.18
Soaps, cosmetics	6.78
Musical instruments, toys, sporting goods	2.08
Leather	N.A.
Jewelry, silverware	N.A.
Tobacco	N.A.
Furniture	N.A.
All Industries	*30.21*

TOTAL RETURN TO INVESTORS, 1973-83

THE TEN HIGHEST

	SALES RANK	
Coachmen Industries	463	49.19%
E-Systems	338	48.15
Wang Laboratories	227	45.79
MEI	402	43.89
Lockheed	50	43.46
Dean Foods	333	43.46
Worthington Industries	475	41.66
Bairnco	486	41.25
G. Heileman Brewing	268	40.58
Teledyne	135	40.18

THE FIVE LOWEST

AM International	427	-7.34%
Xerox	38	-4.88
Polaroid	256	-4.55
Burroughs	82	-4.14
Penn Central	151	-3.61

THE INDUSTRY MEDIANS

Aerospace	25.45%
Apparel	24.75
Publishing, printing	21.17
Shipbuilding, railroad and transportation equipment	20.08
Textiles, vinyl flooring	18.89
Metal products	16.69
Motor vehicles	16.62
Glass, concrete, abrasives, gypsum	16.60
Food	16.42
Paper, fiber, and wood products	15.94
Electronics, appliances	15.37
Industrial and farm equipment	14.75
Rubber, plastic products	14.22
Chemicals	14.02
Mining, crude-oil production	13.74
Musical instruments, toys, sporting goods	13.43
Petroleum refining	12.02
Metal manufacturing	11.83
Beverages	11.23
Office equipment (includes computers)	11.22
Measuring, scientific, photographic equipment	8.00
Pharmaceuticals	6.38
Soaps, cosmetics	4.15
Jewelry, silverware	N.A.
Leather	N.A.
Tobacco	N.A.
Furniture	N.A.
All Industries	*14.59*

RETURN ON STOCKHOLDERS' EQUITY

THE TEN HIGHEST

	SALES RANK	
Chrysler	21	51.1%
General Cinema	312	38.0
Revere Copper & Brass	452	32.2
Lockheed	50	31.5
Fuqua Industries	367	30.7
American Home Products	73	30.6
VF	280	29.9
Coachmen Industries	463	29.5
Savannah Foods & Industries	461	28.3
Gulfstream Aerospace	417	27.6

THE INDUSTRY MEDIANS

	1983	1982
Publishing, printing	17.8%	15.5%
Pharmaceuticals	17.5	16.9
Beverages	16.9	16.7
Soaps, cosmetics	14.7	16.0
Food	14.5	15.3
Aerospace	13.5	11.7
Apparel	13.0	12.3
Electronics, appliances	12.0	11.6
Shipbuilding, railroad and transportation equipment	11.6	8.6
Office equipment (includes computers)	11.1	12.1
Motor vehicles	10.1	5.3
Chemicals	10.0	8.9
Rubber, plastic products	10.0	1.9
Measuring, scientific, photographic equipment	9.9	13.0
Metal products	9.5	12.2
Petroleum refining	9.4	12.5
Mining, crude-oil production	8.9	9.0
Textiles, vinyl flooring	8.7	6.3
Glass, concrete, abrasives, gypsum	8.0	4.3
Paper, fiber, and wood products	7.1	8.0
Industrial and farm equipment	4.7	9.6
Musical instruments, toys, sporting goods	.0	N.A.
Metal manufacturing	.0	.0
Leather	N.A.	N.A.
Furniture	N.A.	N.A.
Tobacco	N.A.	N.A.
Jewelry, silverware	N.A.	N.A.
All Industries	*10.6*	*10.9*

RETURN ON SALES

THE TEN HIGHEST

	SALES RANK	
Brown-Forman Distillers	406	15.7%
SmithKline Beckman	126	15.5
G.D. Searle	296	15.2
Eli Lilly	130	15.1
Capital Cities Communications	356	15.0
International Flavors & Fragrances	470	14.8
Merck	124	13.9
International Business Machines	5	13.7
Superior Oil	196	13.7
Fort Howard Paper	347	13.6

THE INDUSTRY MEDIANS

	1983	1982
Pharmaceuticals	10.4%	9.9%
Publishing, printing	7.5	6.5
Mining, crude-oil production	6.1	3.0
Beverages	6.0	5.4
Office equipment (includes computers)	5.7	5.7
Soaps, cosmetics	5.5	5.2
Measuring, scientific, photographic equipment	5.1	5.9
Electronics, appliances	4.8	4.5
Metal products	4.0	3.7
Paper, fiber, and wood products	3.7	3.2
Motor vehicles	3.7	2.1
Aerospace	3.6	2.8
Apparel	3.6	3.4
Chemicals	3.5	3.9
Petroleum refining	3.4	4.0
Glass, concrete, abrasives, gypsum	3.4	1.5
Textiles, vinyl flooring	3.2	2.1
Rubber, plastic products	3.1	.9
Shipbuilding, railroad and transportation equipment	2.9	2.8
Food	2.7	3.3
Industrial and farm equipment	1.8	3.2
Musical instruments, toys, sporting goods	.0	N.A.
Metal manufacturing	.0	.0
Leather	N.A.	N.A.
Jewelry, silverware	N.A.	N.A.
Tobacco	N.A.	N.A.
Furniture	N.A.	N.A.
All Industries	*3.8*	*3.6*

CHANGES IN SALES

THE TEN BIGGEST INCREASES

	SALES RANK	
James River Corp. of Virginia	209	114.3%
Coachmen Industries	463	80.4
Apple Computer	299	68.6
Amdahl	350	68.2
Allied	29	67.8
Smithfield Foods	422	65.7
Stone Container	391	53.7
National Distillers & Chemical	166	51.2
Morton Thiokol	231	51.1
Alumax	230	50.4

THE TEN BIGGEST DECREASES

Joy Manufacturing	390	39.1%
Cessna Aircraft	445	36.9
Smith International	375	35.0
NL Industries	239	34.7
CBI Industries	337	31.6
Trinity Industries	465	31.4
Tosco	153	28.0
Hyster	497	27.7
Hughes Tool	267	27.5
Baker International	192	27.5

THE INDUSTRY MEDIANS

	INCREASES
Motor vehicles	16.9%
Publishing, printing	12.1
Musical instruments, toys, sporting goods	11.3
Paper, fiber, and wood products	10.6
Aerospace	9.5
Office equipment (includes computers)	8.5
Beverages	7.2
Pharmaceuticals	6.4
Electronics, appliances	5.7
Textiles, vinyl flooring	5.7
Chemicals	4.0
Glass, concrete, abrasives, gypsum	3.9
Rubber, plastic products	3.7
Soaps, cosmetics	2.9
Shipbuilding, railroad and transportation equipment	2.7
Metal products	2.2
Food	1.9
Metal manufacturing	1.7
Mining, crude-oil production	.5
Apparel	.3
	DECREASES
Industrial and farm equipment	7.7%
Petroleum refining	4.6
Measuring, scientific, photographic equipment	1.9
Jewelry, silverware	N.A.
Leather	N.A.
Furniture	N.A.
Tobacco	N.A.

CHANGES IN PROFITS

THE TEN BIGGEST INCREASES*

	SALES RANK	
Northrop	123	1764.8%
Firestone Tire & Rubber	95	1750.0
Aluminum Co. of America	65	1513.0
American Hoechst	213	1051.5
Jim Walter	181	1051.1
Harcourt Brace Jovanovich	392	734.1
Boise Cascade	113	732.8
Hoover	387	608.5
Amdahl	350	586.5
Sun Chemical	364	389.2

THE TEN BIGGEST DECREASES*

Brockway	336	98.7%
Cameron Iron Works	307	97.8
Dresser Industries	112	97.0
Joy Manufacturing	390	96.5
ACF Industries	416	94.4
Norton Simon	136	91.0
Beatrice Foods	36	88.9
Penn Central	151	85.0
AT&T Technologies	26	84.9
Hyster	497	78.6

THE INDUSTRY MEDIANS

	INCREASES
Rubber, plastic products	171.5%
Motor vehicles	118.6
Glass, concrete, abrasives, gypsum	78.3
Metal manufacturing	27.0
Chemicals	26.9
Aerospace	23.6
Apparel	23.2
Beverages	23.0
Paper, fiber, and wood products	22.4
Textiles, vinyl flooring	22.2
Publishing, printing	21.0
Pharmaceuticals	13.5
Metal products	13.0
Shipbuilding, railroad and transportation equipment	10.8
Electronics, appliances	9.7
Food	8.9
Office equipment (includes computers)	8.7
Mining, crude-oil production	3.7
Soaps, cosmetics	2.1
	DECREASES
Industrial and farm equipment	15.8%
Petroleum refining	9.1
Measuring, scientific, photographic equipment	2.8
Musical instruments, toys, sporting goods	.0
Jewelry, silverware	N.A.
Leather	N.A.
Tobacco	N.A.
Furniture	N.A.

*Listings exclude money losers.

SALES PER DOLLAR OF STOCKHOLDERS' EQUITY

THE TEN HIGHEST

	SALES RANK	
Wilson Foods	171	$53.59
Smithfield Foods	422	32.85
American Motors	105	26.55
Michigan Milk Producers Assoc.	430	22.31
Frederick & Herrud	377	21.70
Swift Independent	152	21.60
Monfort of Colorado	250	19.61
Pabst Brewing	376	18.57
Interstate Bakeries	388	15.63
United Brands	109	15.59

THE FIVE LOWEST

Joseph E. Seagram & Sons	233	$0.56
Newmont Mining	370	0.49
International Harvester	104	-6.73
AM International	427	-7.10
Tosco	153	-38.94

THE INDUSTRY MEDIANS

Food	$4.55
Musical instruments, toys, sporting goods	3.86
Shipbuilding, railroad and transportation equipment	3.77
Aerospace	3.66
Beverages	3.59
Apparel	3.28
Motor vehicles	3.18
Rubber, plastic products	3.03
Textiles, vinyl flooring	2.95
Petroleum refining	2.91
Metal products	2.88
Metal manufacturing	2.78
Soaps, cosmetics	2.71
Electronics, appliances	2.70
Paper, fiber, and wood products	2.39
Chemicals	2.31
Industrial and farm equipment	2.25
Publishing, printing	2.18
Glass, concrete, abrasives, gypsum	2.16
Measuring, scientific, photographic equipment	1.94
Pharmaceuticals	1.93
Office equipment (includes computers)	1.88
Mining, crude-oil production	1.63
Tobacco	N.A.
Furniture	N.A.
Leather	N.A.
Jewelry, silverware	N.A.
All Industries	*2.66*

ASSETS PER EMPLOYEE

THE TEN HIGHEST

	SALES RANK	
Louisiana Land & Exploration	257	$1,118,085
Superior Oil	196	822,963
Pacific Resources	225	778,797
Amerada Hess	39	769,252
National Cooperative Refinery Assoc.	348	722,376
Shell Oil	13	630,070
Coastal	58	608,751
Standard Oil of California	9	598,888
CF Industries	328	574,871
Williams Companies	172	571,512

THE FIVE LOWEST

EG&G	318	$17,132
Interstate Bakeries	388	17,089
Hanson Industries	309	15,641
Oxford Industries	450	15,159
American Bakeries	460	14,884

THE INDUSTRY MEDIANS

Petroleum refining	$431,817
Mining, crude-oil production	290,032
Chemicals	120,977
Metal manufacturing	113,559
Paper, fiber, and wood products	108,792
Beverages	90,046
Pharmaceuticals	82,330
Publishing, printing	76,706
Glass, concrete, abrasives, gypsum	73,055
Soaps, cosmetics	72,634
Office equipment (includes computers)	67,300
Industrial and farm equipment	64,642
Aerospace	63,964
Metal products	61,027
Motor vehicles	60,718
Food	60,680
Rubber, plastic products	54,695
Measuring, scientific, photographic equipment	54,404
Electronics, appliances	53,509
Musical instruments, toys, sporting goods	52,690
Shipbuilding, railroad and transportation equipment	42,787
Textiles, vinyl flooring	34,898
Apparel	26,370
Furniture	N.A.
Tobacco	N.A.
Leather	N.A.
Jewelry, silverware	N.A.
All Industries	*70,238*

SALES PER EMPLOYEE

THE TEN HIGHEST

	SALES RANK	
Pacific Resources	225	$1,895,490
National Cooperative Refinery Assoc.	348	1,418,372
Tosco	153	1,333,797
Holly	484	1,228,296
Charter	61	1,159,509
Coastal	58	1,087,358
Amerada Hess	39	1,035,504
Louisiana Land & Exploration	257	827,593
American Petrofina	176	797,657
Michigan Milk Producers Assoc.	430	738,552

THE FIVE LOWEST

General Instrument	302	$39,768
Hanson Industries	309	39,137
Hartmarx	304	38,474
Kellwood	421	38,211
National Semiconductor	261	33,965

THE INDUSTRY MEDIANS

Petroleum refining	$481,410
Mining, crude-oil production	172,661
Beverages	142,258
Food	130,493
Chemicals	123,779
Soaps, cosmetics	113,135
Metal manufacturing	109,728
Paper, fiber, and wood products	107,457
Rubber, plastic products	99,009
Glass, concrete, abrasives, gypsum	93,035
Pharmaceuticals	90,208
Publishing, printing	87,972
Shipbuilding, railroad and transportation equipment	87,907
Motor vehicles	86,260
Metal products	83,471
Industrial and farm equipment	79,024
Musical instruments, toys, sporting goods	77,238
Aerospace	77,174
Measuring, scientific, photographic equipment	70,127
Electronics, appliances	67,615
Office equipment (includes computers)	66,423
Textiles, vinyl flooring	55,336
Apparel	48,618
Furniture	N.A.
Leather	N.A.
Tobacco	N.A.
All Industries	*92,226*

THE MONEY LOSERS

	SALES RANK	1983 LOSS
U.S. Steel	15	$1,161,000,000*
Armco	87	672,500,000*
AMAX	164	489,000,000*
International Harvester	104	485,285,000*
Kaiser Steel	396	422,770,000
Warner Communications	114	417,803,000
Tosco	153	378,098,000
Caterpillar Tractor	64	345,000,000*
Republic Steel	145	326,494,000*
Gulf & Western Industries	67	212,053,000
LTV	78	180,700,000*
Oak Industries	492	166,113,000
Bethlehem Steel	69	163,500,000*
National Intergroup	132	154,318,000*
United Brands	109	149,553,000
American Motors	105	146,730,000*
Texas Instruments	77	145,400,000
Allis-Chalmers	253	133,232,000*
Bucyrus-Erie	434	133,003,000
Kidde	161	123,799,000
Inland Steel	127	116,900,000*
Ingersoll-Rand	165	112,166,000
Crane	294	109,060,000*
NL Industries	239	107,402,000
Reynolds Metals	118	99,100,000
Smith International	375	94,553,000
Hughes Tool	267	90,873,000
Inspiration Resources	357	82,657,000*
Northwest Industries	183	80,400,000
Kaiser Aluminum & Chemical	140	74,900,000*
Bangor Punta	438	64,429,000
Baker International	192	63,518,000
Phelps Dodge	300	63,497,000*
Diamond Shamrock	89	56,163,000
Wheeling-Pittsburgh Steel	352	54,080,000*
Wilson Foods	171	42,877,000
Chromalloy American	297	42,223,000*
Storage Technology	322	40,867,000
Sybron	404	26,701,000
Mack Trucks	259	26,175,000*
Southwest Forest Industries	380	24,696,000*
Combustion Engineering	129	20,375,000
Cessna Aircraft	445	18,845,000
Economics Laboratory	384	15,652,000
National Semiconductor	261	14,176,000*
Lafarge	324	13,080,000*
Cincinnati Milacron	433	10,279,000
Midland-Ross	360	10,177,000
Interstate Bakeries	388	10,110,000
Coleco Industries	410	7,433,000
Kane-Miller	353	4,962,000
Anchor Hocking	349	4,337,000
GAF	374	3,841,000
Amsted Industries	458	3,800,000
Stone Container	391	2,922,000
United Merchants & Mfrs.	464	2,711,000
Cyclops	290	2,190,000*
Genesco	394	1,971,000
Stauffer Chemical	249	1,719,000
AMF	303	1,494,000

*Also lost money in 1982

ARRIVALS AND DEPARTURES

NEWCOMERS TO THE 500

	SALES RANK
Badische	382
Bairnco	486
Coachmen Industries	463
Cooper Labs	476
Fuller (H.B.)	493
Guardian Industries	468
Gulfstream Aerospace	417
Harte-Hanks Communications	485
Harvey Hubbell	490
Hillenbrand Industries	488
Inspiration Resources	357
Lafarge	324
Mack Trucks	259
Michigan Milk Producers Association	430
Pittway	491
Prentice-Hall	477
ROLM	454
Rorer Group	466
Rubbermaid	487
Sealed Power	494
Smithfield Foods	422
Tandem Computers	500
Tracor	495

RETURNED TO THE 500*

Avco (1976:305)	179
Macmillan (1981:487)	489
NI Industries (1980:436)	368
Riegel Textile (1981:499)	498

*Figures in parentheses indicate year and sales rank the last time the company was listed.

DISPLACED FROM THE 500

	1982 SALES RANK
American Hoist & Derrick	467
Barnes Group[1]	484
Bendix[2]	86
Butler Manufacturing	497
Carpenter Technology	458
Cone Mills[3]	398
Dan River[3]	440
Foster Wheeler[1]	215
GATX[1]	286
Gates Learjet	428
Geosource[3]	343
Gifford-Hill	471
Greyhound[1]	78
Harnischfeger	479
Heublein[4]	204
Kerr Glass Manufacturing	451
Knudsen[5]	466
Marion	477
Maryland Cup[6]	388
McDermott[7]	72
Natomas[8]	214
North American Coal	461
Porter (H. K.)	468
Rath Packing	490
Research-Cottrell	475
Wheelabrator-Frye[9]	227
Wyman-Gordon	463

[1] No longer classified as an industrial.

[2] Acquired by Allied (rank: 29) January 31, 1983.

[3] Figures no longer made public.

[4] Acquired by R.J. Reynolds Industries (rank: 23) October 12, 1982.

[5] Acquired by Winn Enterprises June 1, 1983.

[6] Acquired by Fort Howard Paper (rank: 347) August 31, 1983.

[7] No longer incorporated in the United States.

[8] Acquired by Diamond Shamrock (rank: 89) August 31, 1983.

[9] Acquired by Signal Companies (rank: 54) February 1, 1983.

Industry Companies are identified in the main directory by industry code. See page 322 for key.	**Sales**	**Assets**	**Net income**	**Sales change from '82**	**Profits change from '82**	**Stock-holders' equity**	**Number of em-ployees**	**Net income as percent of:**		**10-yr. earn-ings-per-share growth**	**Total return to investors:**		**Assets per empl.**	**Sales per empl.**
								sales	**stock-holders' equity**		**10-yr. avg.**	**1983**		
AEROSPACE														
Avco	179	40	138	12	95	129	150	168	288	—	134	324	41	332
Bangor Punta	438	368	459	443	—	440	342	—	—	—	45	112	322	415
Boeing	27	36	44	45	153	40	28	287	218	29	14	205	187	130
Cessna Aircraft	445	313	447	498	—	323	367	—	—	—	145	382	177	389
Fairchild Industries	321	269	316	477	329	367	272	289	366	—	25	218	218	349
Gulfstream Aerospace	417	357	220	318	144	411	471	42	10	—	—	—	83	95
General Dynamics	46	112	56	114	39	109	24	231	27	33	27	33	468	329
Grumman	167	247	129	266	22	275	139	176	22	208	63	395	441	331
Lockheed	50	114	60	87	130	183	44	227	4	18	5	75	437	261
Martin Marietta	94	118	106	147	73	181	82	255	92	79	67	248	286	258
McDonnell Douglas	42	57	59	145	124	65	40	270	180	196	168	141	281	182
Northrop	123	192	140	27	1	228	106	300	81	31	16	320	424	274
Rockwell International	43	52	43	162	178	56	17	186	100	163	77	88	380	317
Rohr Industries	425	447	338	315	116	446	366	214	129	159	324	3	423	358
Signal Companies	54	54	136	38	303	51	60	379	394	309	129	190	170	174
Sundstrand	316	275	249	395	354	253	245	184	293	181	165	334	262	395
United Technologies	18	32	28	186	290	31	6	263	177	101	73	213	414	339
APPAREL														
Blue Bell	258	307	239	410	125	272	147	238	249	113	74	220	481	483
Cluett Peabody	325	392	328	327	206	377	205	299	216	71	81	137	487	480
Gulf & Western Industries	67	67	480	415	—	73	32	—	—	—	140	26	345	420
Hartmarx	304	349	275	134	173	351	156	236	165	153	102	194	493	497
INTERCO	150	193	161	383	344	165	67	274	308	274	209	340	471	475
Kellwood	421	464	399	396	108	474	228	366	205	256	242	177	494	498
Levi Strauss	143	172	81	212	74	142	76	83	66	3	33	349	431	425
Oxford Industries	450	489	346	63	100	468	267	207	36	171	11	61	498	493
Palm Beach	467	483	387	381	79	475	375	313	149	57	21	120	467	416
Phillips-Van Heusen	473	484	406	230	169	471	359	368	304	258	85	7	480	446
VF	280	343	117	36	117	287	157	22	7	25	50	95	492	489
Warnaco	456	467	317	308	177	432	311	130	84	179	68	270	473	466
BEVERAGES														
Anheuser-Busch	55	69	45	28	157	81	97	127	73	51	332	412	135	103
Brown-Forman Distillers	406	328	147	243	227	265	488	1	42	39	146	438	40	53
Coca-Cola	48	53	27	127	234	44	94	62	53	174	418	375	98	76
Coors (Adolph)	278	236	155	54	37	177	316	61	253	—	—	60	108	159
Dr Pepper	432	435	357	178	59	439	463	240	166	227	406	40	178	120
General Cinema	312	332	144	240	44	358	264	25	2	9	17	94	387	345
Heileman (G.) Brewing	268	353	205	25	138	371	396	179	21	17	9	109	197	73
MEI	402	400	272	47	164	430	440	110	28	10	4	255	183	137
Pabst Brewing	376	477	423	223	114	493	482	415	272	365	375	87	196	54
PepsiCo	44	61	57	232	131	79	10	256	112	137	343	353	470	471
Royal Crown Companies	459	475	385	245	296	461	432	304	206	300	278	125	383	230
Seagram (Joseph E.) & Sons	233	63	86	392	332	48	295	14	352	—	—	—	24	114
CHEMICALS														
Air Products & Chemicals	212	146	131	247	353	143	221	94	251	68	317	263	92	231
American Cyanamid	107	101	95	277	134	87	101	192	254	261	215	123	219	256
American Hoechst	213	222	285	188	4	204	341	356	381	—	—	—	84	71
Avery International	341	377	290	105	126	370	360	213	155	139	374	107	317	216
BASF Wyandotte	285	303	374	116	26	332	465	384	378	—	—	—	56	44
BOC	282	183	236	389	201	152	286	199	369	—	22	—	72	221
Badische	382	358	352	20	—	397	457	277	247	—	—	—	114	97

THE 500 BY INDUSTRY, RANKED BY 14 MEASURES

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								sales	stockholders' equity		10-yr. avg.	1983		
Big Three Industries	385	244	245	446	371	216	427	89	336	124	265	418	47	131
CF Industries	328	259	—	404	—	260	491	—	—	—	—	—	9	24
Cabot	224	216	193	354	342	200	377	223	276	114	95	273	59	59
Celanese	122	109	126	204	—	123	166	267	275	290	189	81	110	118
Dexter	431	408	326	193	215	418	414	183	145	92	124	217	237	218
Dow Chemical	28	20	47	264	322	24	64	306	361	308	383	186	45	66
Dow Corning	355	285	183	91	121	268	406	44	142	—	—	—	78	128
Du Pont (E.I.) de Nemours	7	7	13	215	132	8	8	290	269	302	390	110	73	56
Engelhard	174	281	174	250	203	271	383	260	108	—	—	298	102	40
Ethyl	197	197	134	185	210	178	253	115	202	202	131	35	124	126
Fuller (H.B.)	493	482	388	30	82	472	460	281	130	70	29	52	349	209
Ferro	401	433	366	253	47	415	354	298	258	289	244	226	411	334
Grace (W.R.)	53	55	102	298	374	61	33	340	339	307	273	262	284	315
Hercules	148	151	88	205	55	107	161	97	174	260	393	199	182	184
Insilco	381	331	289	336	36	364	370	166	173	205	125	383	209	269
Koppers	221	230	309	406	—	231	233	365	393	353	263	164	212	189
Liquid Air	471	352	339	278	312	362	462	158	294	—	—	256	97	172
Lubrizol	343	319	191	346	106	261	459	54	169	228	392	287	65	69
Mobay Chemical	252	233	279	90	—	241	408	328	355	—	—	—	51	55
Monsanto	52	39	41	332	198	33	68	103	235	267	291	143	106	148
Morton Thiokol	231	238	170	9	362	235	220	159	153	133	136	92	259	264
NL Industries	239	169	466	496	—	156	256	—	—	—	191	440	77	170
Nalco Chemical	389	370	178	275	150	312	448	23	45	265	305	358	142	116
National Distillers & Chemical	166	163	188	8	321	155	251	314	373	351	206	301	76	78
National Starch & Chemical	359	366	240	164	133	336	425	112	122	—	—	—	166	111
Olin	185	173	175	216	112	179	206	250	305	305	97	184	154	196
Pennwalt	301	283	247	274	43	258	306	197	283	243	246	150	186	222
Reichhold Chemicals	362	420	355	424	11	421	453	317	255	246	141	38	190	84
Rohm & Haas	189	196	108	273	69	169	278	78	125	203	349	85	94	90
SCM	193	240	337	360	317	248	160	392	388	284	116	246	410	353
Sherwin-Williams	184	271	208	202	123	302	193	325	135	192	205	292	394	214
Stauffer Chemical	249	160	431	470	—	148	307	—	—	—	240	341	49	122
Sun Chemical	364	362	404	115	10	433	390	395	371	310	99	48	233	176
Tyler	306	363	370	149	53	425	303	369	248	166	55	96	381	234
Union Carbide	37	24	168	338	383	25	18	404	410	376	279	264	147	259
Williams Companies	172	59	217	31	71	122	349	346	391	348	427	56	10	48
ELECTRONICS, APPLIANCES														
AMP	228	223	99	50	104	186	178	24	41	81	258	55	325	375
AT&T Technologies	26	30	229	437	387	26	11	419	415	—	—	—	285	319
Allegheny International	160	167	318	474	358	318	108	399	—	—	300	291	367	421
Bairnco	486	437	345	60	158	456	458	164	86	14	8	89	201	203
Champion Spark Plug	354	341	327	362	279	308	258	259	334	362	422	396	412	430
Cooper Industries	190	164	177	484	370	110	131	241	376	282	213	252	277	427
Diebold	483	448	234	246	170	375	404	21	37	69	204	387	340	333
E-Systems	338	430	211	160	72	373	273	92	26	16	2	249	466	388
Eaton	138	141	151	182	—	153	85	284	280	332	160	47	353	384
Emerson Electric	111	132	51	340	277	84	69	47	78	120	360	343	388	386
General Electric	10	10	4	304	217	10	4	70	76	127	314	245	260	318
General Instrument	302	293	139	295	202	222	158	27	89	13	86	459	456	495
Gould	198	199	195	454	348	172	182	252	341	349	219	451	242	296
Harvey Hubbell	490	452	296	284	299	366	412	68	184	204	224	330	338	342
Harris	201	211	207	325	339	209	170	280	296	132	103	359	301	326
Hoover	387	444	319	310	8	423	231	218	117	336	330	4	491	486
ITT	20	17	21	436	287	17	5	187	234	317	264	108	384	473
Intel	272	186	121	37	15	133	175	29	256	19	69	8	221	469

THE 500 BY INDUSTRY, RANKED BY 14 MEASURES

Industry Companies are identified in the main directory by industry code. See page 322 for key.	Sales	Assets	Net income	Sales change from '82	Profits change from '82	Stockholders' equity	Number of employees	Net income as percent of:		10-yr. earnings-per-share growth	Total return to investors:		Assets per empl.	Sales per empl.
								sales	stockholders' equity		10-yr. avg.	1983		
Johnson Controls	251	272	202	228	228	281	181	202	159	72	58	167	416	422
Litton Industries	74	76	68	388	340	77	46	181	193	32	32	129	330	393
M/A-Com	395	323	313	197	309	292	310	195	332	77	54	448	255	400
Magic Chef	361	409	333	102	29	410	374	273	233	130	61	31	348	215
Maytag	409	453	200	18	67	380	442	33	12	212	228	144	261	139
McGraw-Edison	175	194	293	414	363	230	142	383	372	334	230	360	360	357
Motorola	81	97	64	98	105	71	25	134	195	194	272	90	448	478
National Semiconductor	261	287	445	158	—	320	110	—	—	—	286	11	488	499
National Service Industries	311	367	209	224	229	321	215	118	97	121	60	156	476	458
North American Philips	97	144	146	56	118	173	56	344	317	229	128	62	436	399
Oak Industries	492	387	478	483	—	479	314	—	—	—	344	464	398	485
Pittway	491	455	329	235	292	382	416	113	210	97	208	297	343	337
Penn Central	151	108	365	480	388	96	115	408	—	—	450	154	206	363
ROLM	454	355	284	26	165	295	380	86	284	—	—	414	236	373
Raychem	413	364	310	169	327	342	339	156	244	63	373	312	328	396
Raytheon	59	81	52	192	295	74	39	167	111	47	113	411	392	321
Sanders Associates	415	380	277	23	98	346	315	102	183	106	30	74	390	428
Scott & Fetzer	397	390	302	238	167	391	239	165	131	235	268	272	463	488
Scovill	366	369	325	195	103	369	219	251	228	329	181	282	474	491
Singer	155	206	305	370	—	277	61	396	340	374	436	133	482	487
Square D	269	270	197	183	307	246	179	140	197	252	326	290	417	460
Texas Instruments	77	122	473	221	—	119	31	—	—	—	405	392	454	447
Tracor	495	459	336	190	156	441	348	126	109	115	12	345	445	472
Varian Associates	358	336	246	156	60	307	243	119	199	58	49	51	420	454
Warner Communications	114	99	484	457	—	160	189	—	—	—	43	453	71	81
Westinghouse Electric	34	33	36	359	282	35	12	191	185	125	234	136	280	370
Whirlpool	147	204	94	70	161	159	169	107	87	217	289	333	279	163
White Consolidated Industries	178	214	226	261	68	226	168	345	312	301	84	182	333	262
Zenith Radio	246	299	243	157	—	299	130	268	200	347	354	39	486	484
FOOD														
American Bakeries	460	496	419	411	—	492	372	405	237	—	172	258	499	414
Amstar	264	333	347	467	367	293	357	373	375	263	108	20	230	107
Anderson Clayton	244	284	356	471	380	233	257	386	395	257	211	354	258	179
Archer-Daniels-Midland	83	131	130	88	346	95	337	341	331	50	217	423	36	23
Beatrice Foods	36	58	252	294	389	60	34	418	407	378	338	153	313	164
Borden	85	121	84	256	200	100	122	203	172	129	195	275	203	132
CPC International	90	133	110	356	359	104	102	269	250	233	190	425	276	198
Campbell Soup	119	162	96	129	224	125	86	170	152	187	283	225	400	316
Carnation	116	178	80	334	255	135	186	125	82	105	308	219	195	91
Central Soya	200	347	334	352	122	331	362	390	314	327	419	432	251	58
ConAgra	162	277	238	17	83	350	227	359	93	55	19	254	321	106
Consolidated Foods	49	127	91	173	231	164	23	339	68	172	193	305	477	382
Dart & Kraft	33	49	38	366	141	43	37	200	136	190	297	399	250	143
Dean Foods	333	476	350	131	159	466	461	337	43	11	6	168	312	64
Esmark	88	82	120	48	233	146	51	316	231	80	62	117	305	398
Federal Co.	275	454	331	371	81	406	254	352	187	291	142	338	485	288
Flowers Industries	446	481	367	103	174	465	299	254	91	67	26	23	490	468
Frederick & Herrud	377	494	422	84	48	494	485	414	214	185	—	—	405	51
General Foods	41	70	54	343	88	75	53	261	121	142	232	188	244	124
General Mills	62	103	63	244	238	115	30	205	47	88	321	356	450	392
Gerber Products	372	399	268	282	291	345	287	145	167	162	110	34	435	405
Gold Kist	238	397	—	377	—	470	325	—	—	—	—	—	396	96
Hanson Industries	309	427	362	313	102	442	163	354	168	—	—	—	497	496
Heinz (H.J.)	100	150	71	300	218	128	79	129	58	15	169	135	385	286
Hershey Foods	202	262	141	168	254	225	238	120	90	38	89	325	257	161

THE 500 BY INDUSTRY, RANKED BY 14 MEASURES

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								sales	stockholders' equity		10-yr. avg.	1983		
Hormel (Geo. A.)	241	359	321	337	284	355	388	364	246	78	156	339	229	63
IC Industries	96	77	152	348	46	116	89	348	356	271	212	148	162	242
Idle Wild Foods	398	493	417	123	375	487	490	410	342	315	—	351	246	36
International Multifoods	274	384	286	365	250	386	368	292	104	109	194	373	309	110
Interstate Bakeries	388	487	441	329	—	721	284	—	—	—	262	113	496	432
Kane-Miller	353	492	439	306	—	482	478	—	—	—	310	191	355	50
Kellogg	158	203	65	311	253	158	204	32	15	85	262	244	216	133
Land O'Lakes	121	314	—	449	—	385	392	—	—	—	—	—	136	20
Lipton (Thomas J.)	293	327	192	152	199	298	423	101	85	—	—	—	121	72
Mich. Milk Producers Assoc.	430	498	—	500	—	495	496	—	—	—	—	—	119	10
McCormick	365	403	264	260	70	387	385	146	63	54	365	318	304	186
Mid-America Dairymen	247	458	—	200	—	469	477	—	—	—	—	—	155	28
Monfort of Colorado	250	486	378	21	316	484	472	397	19	4	250	363	337	31
Nabisco Brands	56	84	48	291	269	83	45	147	56	82	220	314	376	287
Norton Simon	136	161	403	384	390	213	114	423	—	—	—	—	323	298
Pillsbury	102	138	107	171	273	161	57	245	148	94	173	116	429	410
Quaker Oats	146	205	206	342	360	208	155	358	310	278	293	152	326	194
Ralston Purina	71	155	61	328	18	138	58	155	25	91	307	79	443	279
Smithfield Foods	422	499	425	6	51	496	479	416	88	201	163	311	475	68
Savannah Foods & Industries	461	490	330	144	140	473	494	151	9	20	44	37	53	18
Shaklee	441	472	288	99	80	444	493	99	24	21	248	372	60	35
Staley (A.E.) Manufacturing	207	224	389	227	385	206	450	407	408	331	98	229	39	33
Stokely-Van Camp	444	469	382	435	278	443	447	315	263	168	—	—	316	169
Sun-Diamond Growers	447	445	—	286	—	486	484	—	—	—	—	—	113	70
Swift Independent	152	463	354	292	313	463	389	406	60	—	—	309	422	32
Tyson Foods	407	474	400	187	176	485	319	375	95	148	53	162	478	409
United Brands	109	246	475	441	—	378	81	—	—	—	353	29	483	306
Universal Foods	448	480	363	233	213	462	474	234	83	66	88	317	247	104
Wilson Foods	171	473	454	364	—	491	340	—	—	—	—	441	469	52
Wisconsin Dairies Cooperative	480	497	—	293	—	490	497	—	—	—	—	—	75	12
Wrigley (Wm. Jr.)	414	451	267	321	230	372	417	91	101	207	249	180	329	208
FURNITURE														
Mohasco	393	431	391	93	—	401	274	360	365	339	335	187	464	456
GLASS, CONCRETE, ABRASIVES, GYPSUM														
Anchor Hocking	349	354	438	452	—	341	277	—	—	—	130	27	406	391
Brockway	336	395	429	296	395	392	276	429	424	389	199	381	440	368
CertainTeed	288	298	295	34	—	294	338	288	323	345	367	368	193	158
Corning Glass Works	217	177	153	309	142	145	146	124	290	311	421	369	283	444
Guardian Industries	468	361	273	95	205	393	433	57	74	56	107	431	150	241
Lafarge	324	257	444	376	—	285	398	—	—	—	—	—	61	117
Libbey-Owens-Ford	266	290	263	208	33	255	225	266	313	354	290	210	364	355
Lone Star Industries	313	207	361	217	89	256	333	351	413	388	302	422	66	200
Manville	199	143	186	430	—	182	184	237	318	358	425	379	137	297
Moore McCormack Resources	496	265	396	487	58	300	486	335	402	277	52	376	31	99
National Gypsum	270	286	219	51	17	242	266	188	257	239	135	146	252	257
Norton	271	254	244	433	35	215	196	229	338	288	188	306	351	438
Owens-Corning Fiberglas	142	188	158	83	27	190	167	286	224	214	341	408	243	155
Owens-Illinois	115	104	181	378	338	102	78	361	382	357	226	176	270	320
PPG Industries	103	85	67	130	77	76	107	104	194	210	100	170	161	226
U.S. Gypsum	215	227	166	52	50	194	223	177	240	247	127	289	234	220
INDUSTRIAL AND FARM EQUIPMENT														
Allis-Chalmers	253	250	472	478	—	339	213	—	—	—	318	53	308	343
Baker International	192	152	458	491	—	144	185	—	—	—	363	445	144	266

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								sales	**stockholders' equity**		**10-yr. avg.**	**1983**		
Black & Decker Manufacturing	265	261	250	431	—	234	234	244	321	298	432	127	265	310
Borg-Warner	106	126	87	140	235	92	38	162	198	183	75	195	453	481
Briggs & Stratton	403	416	304	375	328	357	318	160	203	296	351	442	430	406
Brunswick	260	292	189	191	382	297	202	144	79	141	149	6	418	407
Bucyrus-Erie	434	351	471	479	—	361	455	—	—	—	430	295	109	138
Cameron Iron Works	307	239	424	469	394	236	364	422	420	373	355	430	80	151
Caterpillar Tractor	64	37	482	466	—	36	54	—	—	—	407	296	116	245
Cincinnati Milacron	433	329	443	488	—	337	317	—	—	—	66	216	266	434
Clark Equipment	327	288	393	465	—	259	280	391	403	377	413	128	228	325
Colt Industries	219	229	143	407	—	266	171	105	35	87	23	32	362	372
Combustion Engineering	129	129	448	448	—	189	111	—	—	—	414	402	239	277
Cummins Engine	216	220	415	305	351	252	200	424	419	384	223	57	267	285
Deere	92	46	341	455	378	58	74	412	417	382	350	201	103	278
Dover	292	309	171	361	314	251	244	67	120	53	57	409	375	346
Dresser Industries	112	96	416	468	393	70	91	427	423	386	395	371	217	291
Eagle-Picher Industries	443	424	380	316	111	379	353	320	353	318	185	24	403	408
Emhart	205	258	162	345	258	245	134	172	99	104	71	142	451	445
Federal-Mogul	363	338	261	297	87	335	248	141	175	150	90	242	421	449
Figgie International Holdings	386	385	360	397	326	419	260	285	221	116	126	276	446	463
Fuqua Industries	367	378	259	55	40	454	328	132	5	44	56	44	373	305
Hughes Tool	267	156	463	490	—	132	261	—	—	—	385	424	62	248
Hyster	497	388	412	492	386	334	441	377	406	361	167	41	172	272
Ingersoll-Rand	165	139	468	476	—	147	125	—	—	—	435	171	245	383
Joy Manufacturing	390	294	426	499	392	247	386	420	421	379	334	200	117	235
Midland-Ross	360	311	442	420	—	348	290	—	—	—	118	293	271	369
Outboard Marine	344	325	266	301	190	313	320	178	227	326	182	42	248	290
Peabody International	481	465	407	418	65	459	437	372	359	350	231	63	320	252
Rexnord	342	308	421	456	368	305	275	417	416	381	227	84	314	390
Roper	462	485	397	128	32	478	446	349	188	154	41	10	413	202
Smith International	375	255	464	497	—	238	365	—	—	—	382	456	90	263
Tecumseh Products	334	356	212	49	110	289	305	95	164	219	176	307	370	295
Teledyne	135	79	50	248	182	49	73	31	222	6	10	237	204	418
Textron	134	154	156	299	259	111	88	309	346	337	296	138	379	366
Timken	310	242	428	416	—	187	210	428	425	390	271	231	294	465
Trane	284	322	297	40	99	333	262	307	243	180	203	104	358	289
U.S. Industries	283	317	291	142	244	290	236	297	301	344	207	80	401	350
LEATHER														
Genesco	394	450	432	379	—	477	249	—	—	—	396	54	484	479
MEASURING, SCIENTIFIC, PHOTOGRAPHIC EQUIPMENT														
AM International	427	423	413	421	—	498	291	398	—	292	454	59	447	461
Ametek	478	457	274	226	101	424	403	50	32	74	37	58	371	338
Bausch & Lomb	424	365	254	136	93	354	350	72	110	89	266	348	307	385
Becton Dickinson	273	243	280	312	377	224	195	283	370	297	424	446	327	440
Bell & Howell	379	376	260	402	—	394	309	116	50	316	251	78	389	371
EG&G	318	443	241	106	184	390	191	161	30	22	91	460	495	482
Eastman Kodak	30	22	26	401	376	15	14	136	333	342	438	439	191	309
Foxboro	442	398	410	440	384	330	294	387	404	340	352	401	426	467
General Signal	220	215	154	369	325	180	164	131	245	151	319	319	344	401
Lear Siegler	236	279	194	349	306	257	188	208	179	64	31	197	415	362
Minnesota Mining & Mfg.	47	47	22	201	257	32	27	40	72	188	404	336	269	303
Perkin-Elmer	291	280	230	358	331	244	237	180	271	149	368	389	297	379
Polaroid	256	213	232	372	41	166	241	233	380	322	452	183	168	260
Sybron	404	379	451	385	—	399	331	—	—	—	417	163	366	387
Tektronix	263	248	237	331	356	202	180	224	337	138	229	224	378	450

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								sales	**stockholders' equity**		**10-yr. avg.**	**1983**		
Xerox	38	28	32	320	225	28	16	138	267	303	453	165	185	307
METAL MANUFACTURING														
Alumax	230	195	176	10	49	203	252	189	238	—	—	—	125	167
Aluminum Co. of America	65	41	89	104	3	38	98	276	379	269	313	124	67	125
Amsted Industries	458	382	436	482	—	310	382	—	—	—	154	173	268	376
Armco	87	86	488	485	—	106	71	—	—	—	325	235	231	280
Asarco	229	145	203	122	—	149	302	239	396	371	366	393	44	105
Bethlehem Steel	69	65	477	408	—	103	66	—	—	—	397	114	200	246
Crane	294	340	467	434	—	363	285	—	—	—	104	189	365	250
Cyclops	290	374	433	71	—	428	347	—	—	—	144	17	335	150
Handy & Harman	418	419	401	89	129	457	421	374	315	211	93	436	249	201
Inland Steel	127	125	469	118	—	131	141	—	—	—	370	300	175	180
Interlake	332	320	344	172	13	324	324	332	351	276	143	175	235	253
Kaiser Aluminum & Chemical	140	90	460	353	—	112	216	—	—	—	276	198	50	85
Kaiser Steel	396	249	485	453	—	447	481	—	—	—	261	18	30	60
LTV	78	68	479	442	—	127	105	—	—	—	371	77	120	152
Marmon Group	235	245	258	451	333	286	224	319	302	—	—	—	264	254
NVF	295	—	—	44	—	—	—	—	—	—	115	281	—	—
National Intergroup	132	124	476	351	—	175	212	—	—	—	346	14	74	79
Newmont Mining	370	158	223	302	236	91	381	77	399	368	327	434	34	213
Northwest Industries	183	176	461	459	—	221	133	—	—	—	72	132	303	404
Nucor	439	401	322	132	135	360	467	163	239	59	20	178	127	112
Phelps Dodge	300	168	457	289	—	157	321	—	—	—	442	444	48	193
Republic Steel	145	110	481	344	—	139	154	—	—	—	336	25	132	192
Revere Copper & Brass	452	440	384	428	—	488	449	311	3	37	399	21	226	175
Reynolds Metals	118	95	465	120	—	117	144	—	—	—	255	86	123	162
Wheeling-Pittsburgh Steel	352	221	455	280	—	303	371	—	—	—	337	28	64	211
Worthington Industries	475	461	364	271	263	458	468	204	116	23	7	71	211	154
METAL PRODUCTS														
American Can	117	113	142	473	—	167	132	308	311	319	239	82	169	173
Ball	315	344	270	279	207	356	313	211	138	49	47	347	319	239
CBI Industries	337	274	251	495	373	267	358	152	277	244	448	455	129	210
Ceco	469	479	395	263	232	453	379	343	303	283	183	161	452	412
Chromalloy American	297	300	453	463	—	347	270	—	—	—	389	257	310	302
Continental Group	68	83	77	339	222	88	95	228	223	242	177	66	174	146
Crown Cork & Seal	254	291	227	382	194	240	263	232	278	198	394	253	274	206
Easco	457	471	405	86	310	464	411	370	326	314	159	140	402	281
Gillette	169	180	105	363	245	191	136	93	51	248	345	344	332	352
Harsco	331	318	323	458	337	291	282	278	349	279	106	206	291	336
Hoover Universal	351	393	300	24	45	409	363	221	98	176	82	76	341	224
Household Manufacturing	340	321	353	207	66	274	283	334	384	—	—	—	306	360
Illinois Tool Works	455	389	233	135	143	316	376	35	147	156	301	155	300	394
Masco	286	217	133	42	188	198	271	34	146	62	257	303	143	270
NI Industries	368	383	271	80	—	445	326	150	14	—	—	—	377	311
National Can	210	282	351	198	352	317	289	393	369	306	157	259	202	100
Parker Hannifin	289	295	314	429	372	273	203	323	364	321	196	49	427	448
Robertson (H.H.)	436	442	373	445	357	434	384	296	242	186	42	43	391	313
Snap-on Tools	474	429	253	229	195	359	422	41	94	108	386	316	263	300
Stanley Works	298	310	222	283	97	276	240	148	204	215	200	335	382	380
Trinity Industries	465	432	376	494	379	422	466	265	287	46	51	19	164	144
MINING, CRUDE-OIL PRODUCTION														
AMAX	164	66	487	393	—	85	246	—	—	—	434	364	32	80
Freeport-McMoRan	346	208	150	236	96	195	439	17	191	152	171	193	35	92

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								sales	**stock-holders' equity**		**10-yr. avg.**	**1983**		
Inspiration Resources	357	241	462	307	—	243	401	—	—	—	444	419	58	140
Int'l Minerals & Chemical	237	166	165	460	361	150	343	139	322	126	225	147	43	77
Louisiana Land & Exploration	257	185	148	189	145	210	492	71	140	272	433	72	1	8
Mitchell Energy	305	170	167	432	347	270	470	51	80	7	59	103	13	46
Occidental Petroleum	14	21	25	237	19	50	87	310	325	216	153	172	37	27
Superior Oil	196	51	66	450	243	53	391	8	270	41	274	239	2	43
Vulcan Materials	339	301	215	101	285	269	418	98	213	167	92	233	95	109
Westmoreland Coal	437	410	381	317	52	383	475	327	350	128	356	65	112	89
MOTOR VEHICLES														
American Motors	105	179	474	41	—	455	153	—	—	—	443	433	272	123
Arvin Industries	408	449	372	75	61	413	296	305	273	213	210	204	461	439
Chrysler	21	38	20	29	12	126	29	153	1	294	328	97	205	94
Dana	139	157	125	68	38	136	116	235	261	251	121	260	311	301
Echlin	428	414	308	92	186	376	369	143	182	175	376	266	372	351
Ex-Cell-O	308	316	231	413	266	278	250	157	219	146	112	100	369	365
Ford Motor	4	9	6	57	—	14	2	219	16	199	237	70	287	165
Fruehauf	173	191	408	94	—	249	149	421	409	383	178	68	315	314
General Motors	2	2	3	39	14	3	1	171	75	266	275	274	273	188
International Harvester	104	92	486	486	—	499	124	—	—	—	446	2	145	177
PACCAR	242	278	265	97	249	218	323	324	360	335	158	149	159	101
Sealed Power	494	460	315	82	127	398	436	88	163	135	70	284	298	275
Sheller-Globe	405	404	375	53	175	404	293	333	309	320	105	151	433	437
Smith (A.O.)	330	394	390	46	—	400	304	382	362	338	198	1	419	284
TRW	63	94	73	196	261	86	26	249	192	218	119	294	442	424
MUSICAL INSTRUMENTS, TOYS, SPORTING GOODS														
AMF	303	276	430	464	—	264	197	—	—	—	403	404	393	470
Coleco Industries	410	373	440	74	—	476	429	—	—	—	256	462	167	160
Hillenbrand Industries	488	438	282	137	192	389	415	53	96	234	120	207	289	328
Kidde	161	182	470	444	—	219	126	—	—	—	132	166	368	364
Mattel	248	297	257	66	241	349	235	293	119	—	340	465	374	249
OFFICE EQUIPMENT (INCLUDES COMPUTERS)														
Amdahl	350	304	242	4	9	301	393	117	196	—	—	268	128	149
Apple Computer	299	345	172	3	137	296	445	64	44	—	—	454	115	61
Burroughs	82	75	79	239	63	59	48	198	295	253	451	251	282	397
Control Data	76	31	100	199	262	78	59	258	291	178	309	278	70	304
Data General	335	289	342	269	297	263	230	326	386	170	372	22	339	455
Datapoint	440	337	409	209	23	322	329	388	405	264	87	119	275	431
Digital Equipment	84	62	58	155	350	34	42	96	320	27	361	458	296	441
Hewlett-Packard	75	73	39	143	208	45	43	43	133	24	214	321	331	413
Honeywell	60	60	69	241	319	57	22	230	265	224	320	93	386	429
IBM	5	3	1	72	139	2	3	9	23	98	306	227	153	183
NCR	101	89	55	225	147	68	49	66	161	96	174	111	336	435
Nashua	426	470	377	394	—	467	426	318	127	273	437	5	361	178
Pitney Bowes	211	201	160	107	260	223	151	154	150	—	38	131	346	426
Prime Computer	451	391	299	64	343	353	402	106	207	—	—	457	232	276
Sperry	66	50	119	426	369	55	35	350	387	324	410	134	256	411
Storage Technology	322	218	452	475	—	250	226	—	—	—	197	461	215	452
Tandem Computers	500	406	307	19	268	329	454	76	268	—	—	174	171	240
Wang Laboratories	227	184	103	22	94	163	174	36	106	2	3	299	222	378
PAPER, FIBER, AND WOOD PRODUCTS														
Bemis	373	415	394	268	171	431	352	378	347	286	180	247	399	283
Boise Cascade	113	111	201	65	7	99	140	376	392	369	192	315	157	157

THE 500 BY INDUSTRY, RANKED BY 14 MEASURES

Industry Companies are identified in the main directory by industry code. See page 322 for key.	**Sales**	**Assets**	**Net income**	**Sales change from '82**	**Profits change from '82**	**Stock-holders' equity**	**Number of em-ployees**	**Net income as percent of:**		**10-yr. earn-ings-per-share growth**	**Total return to investors:**		**Assets per empl.**	**Sales per empl.**
								sales	**stock-holders' equity**		**10-yr. avg.**	**1983**		
Champion International	86	88	164	100	42	80	96	367	390	367	303	280	179	190
Consolidated Papers	420	371	235	184	149	306	434	49	176	102	36	64	158	166
Crown Zellerbach	144	134	159	417	—	130	199	282	327	356	387	241	101	113
Dennison Manufacturing	399	422	306	170	76	396	346	174	137	164	80	105	408	344
Federal Paper Board	423	346	392	133	335	427	456	355	348	313	101	69	100	129
Fort Howard Paper	347	226	132	14	187	192	232	10	156	26	83	313	210	462
Georgia Kraft	449	330	303	242	302	326	476	108	262	—	—	—	52	86
Georgia-Pacific	51	56	135	58	349	69	99	381	383	360	400	428	104	87
Great Northern Nekoosa	222	174	163	163	252	171	265	149	285	160	162	45	81	142
Hammermill Paper	214	256	298	79	288	284	268	362	345	270	202	98	199	127
International Paper	80	48	62	180	78	37	121	121	354	281	380	250	63	135
James River Corp. of Virginia	209	237	214	1	34	314	201	275	114	8	15	159	295	265
Kimberly-Clark	120	106	85	138	289	90	120	128	190	161	187	234	194	237
Louisiana-Pacific	279	219	320	33	—	197	255	342	397	370	339	437	163	294
Masonite	499	456	379	403	—	402	428	247	328	355	391	416	293	299
Mead	149	159	255	357	—	176	217	380	385	343	152	12	111	102
Potlatch	317	235	262	148	54	237	334	201	374	341	218	377	93	205
St. Regis	141	107	213	179	148	89	152	363	398	366	388	145	134	195
Scott Paper	156	120	115	194	64	93	218	169	319	250	252	83	68	115
Sonoco Products	383	421	292	43	179	374	297	173	157	99	114	179	439	403
Southwest Forest Industries	380	305	449	78	—	405	397	—	—	—	333	230	126	181
Stone Container	391	264	435	7	—	352	330	—	—	—	35	16	138	359
Tyco Laboratories	419	417	358	252	300	437	378	248	170	111	117	73	356	312
Union Camp	204	137	111	146	251	121	214	63	232	206	287	157	87	232
Westvaco	232	198	198	265	283	184	229	217	330	285	241	99	156	219
Weyerhaeuser	70	45	74	77	155	39	93	220	367	364	426	426	79	153
Willamette Industries	287	273	348	111	—	288	356	357	377	352	235	406	130	136
PETROLEUM REFINING														
Agway	98	209	—	350	—	340	209	—	—	—	—	—	220	62
Amerada Hess	39	42	72	314	152	52	355	347	316	359	347	304	4	7
American Petrofina	176	210	210	419	275	227	487	336	282	287	282	420	11	9
Ashland Oil	45	74	137	439	365	140	138	394	368	312	281	390	86	45
Atlantic Richfield	12	11	9	390	301	11	70	114	154	43	348	374	19	21
Charter	61	175	218	16	75	217	438	401	297	184	175	355	28	5
Coastal	58	93	149	270	91	328	420	385	123	173	170	46	7	6
Crown Central Petroleum	208	324	420	400	364	412	409	426	412	375	150	214	131	42
Diamond Shamrock	89	43	456	32	—	47	247	—	—	—	329	397	23	41
Exxon	1	1	2	425	168	1	9	135	324	195	285	185	26	16
Farmers' Union Cent'l Exch.	243	315	—	386	—	338	480	—	—	—	—	—	42	26
GAF	374	407	437	117	—	429	464	—	—	—	298	310	146	75
Getty Oil	24	23	29	373	345	19	192	212	286	100	292	13	12	15
Gulf Oil	11	13	14	405	239	12	83	253	274	262	243	102	16	14
Holly	484	491	414	472	355	483	499	389	279	52	155	223	18	4
Kerr-McGee	108	80	118	412	366	82	308	272	357	230	441	361	27	34
Mapco	177	187	216	259	341	207	400	338	306	232	416	367	38	37
Mobil	3	4	11	427	237	6	7	330	241	231	221	288	54	39
Murphy Oil	157	116	112	423	324	154	407	137	178	165	312	221	17	29
Nat'l Coop. Refinery Assoc.	348	413	—	409	—	449	498	—	—	—	—	—	5	2
Pacific Resources	225	326	398	35	204	450	495	409	329	255	304	228	3	1
Pennzoil	163	87	98	285	311	114	335	84	186	221	260	398	25	47
Phillips Petroleum	16	18	18	368	214	16	143	190	215	110	408	350	20	19
Quaker State Oil Refining	319	348	278	367	294	344	444	226	189	254	415	322	118	67
Shell Oil	13	12	7	355	274	9	113	52	151	61	247	346	6	17
Standard Oil of California	9	8	8	481	191	5	92	123	229	220	253	329	8	13
Standard Oil (Indiana)	8	6	5	347	271	7	55	90	128	90	295	196	21	25

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								sales	stockholders' equity		10-yr. avg.	1983		
Standard Oil (Ohio)	25	16	10	438	330	13	77	12	61	12	288	208	29	49
Sun	17	19	34	391	320	21	104	303	298	238	316	130	33	30
Tenneco	19	15	19	399	308	18	20	175	230	245	269	192	57	108
Texaco	6	5	12	461	286	4	62	302	307	325	322	267	15	11
Tosco	153	268	483	493	—	497	489	—	—	—	449	463	14	3
Unocal	31	29	24	374	334	23	187	109	208	140	254	286	22	22
Union Pacific	40	25	53	15	304	29	72	257	363	237	299	352	46	74
U.S. Steel	15	14	489	422	—	20	19	—	—	—	358	121	55	82
Witco Chemical	245	302	225	214	57	319	351	246	118	143	94	15	180	83
PHARMACEUTICALS														
Abbott Laboratories	137	115	46	112	160	98	117	18	17	30	79	308	208	292
American Home Products	73	100	23	218	212	67	63	13	6	103	377	323	342	268
Baxter Travenol Laboratories	191	153	70	150	183	124	118	19	55	36	362	427	292	459
Bristol-Myers	93	102	40	174	180	72	109	28	34	76	184	238	207	191
Cooper Labs	476	441	332	59	109	395	394	133	209	—	34	415	350	374
Johnson & Johnson	57	64	31	258	267	41	36	55	107	112	420	452	334	330
Lilly (Eli)	130	91	33	276	219	63	137	4	31	136	431	388	122	207
Merck	124	72	35	219	240	54	123	7	64	147	411	365	99	225
Miles Laboratories	277	260	287	13	20	254	269	291	344	—	—	—	213	255
Pfizer	99	78	37	177	113	62	90	16	40	107	357	380	165	251
Rorer Group	466	402	256	69	181	381	419	45	52	304	331	243	224	282
Richardson-Vicks	276	266	228	322	336	262	288	196	236	295	379	386	181	204
Robins (A.H.)	429	360	204	76	163	311	410	30	103	155	398	240	184	229
Schering-Plough	194	135	83	335	265	108	159	26	139	225	445	417	160	356
Searle (G.D.)	296	212	104	380	246	196	300	3	38	158	359	385	89	223
SmithKline Beckman	126	98	30	211	248	66	127	2	20	34	147	450	151	217
Squibb	195	165	90	203	211	113	162	38	162	226	402	384	214	361
Sterling Drug	188	202	109	222	264	168	165	81	132	236	409	261	288	308
Upjohn	182	148	101	176	128	141	177	59	126	177	428	212	149	247
Warner-Lambert	128	105	75	387	197	97	84	100	158	268	423	366	253	354
PUBLISHING, PRINTING														
American Greetings	369	339	248	61	107	328	211	111	160	119	369	160	458	494
Capital Cities Communications	356	251	122	96	166	211	361	5	67	35	76	302	91	238
Deluxe Check Printers	400	411	173	109	172	343	292	15	13	40	259	403	438	433
Donnelley (R.R.) & Sons	226	225	123	154	136	199	222	74	105	83	186	215	238	244
Dow Jones	326	312	124	62	119	282	395	11	11	48	39	118	133	121
Gannett	203	181	82	119	256	151	148	20	59	75	245	429	290	423
Harte-Hanks Communications	485	372	294	113	151	365	298	73	181	209	28	236	395	490
Harcourt Brace Jovanovich	392	381	324	108	6	420	336	215	134	123	166	106	357	347
Knight-Ridder Newspapers	234	228	116	139	185	185	173	58	143	95	164	370	359	402
Macmillan	489	428	335	166	—	436	399	122	113	197	280	269	302	381
McGraw-Hill	255	252	114	181	196	214	242	37	39	45	22	332	225	243
Media General	453	375	281	67	221	368	443	85	217	65	111	209	152	187
Meredith	479	405	301	330	162	408	483	79	102	—	13	101	82	98
New York Times	281	296	169	73	85	283	344	80	54	73	46	122	173	134
Prentice-Hall	477	412	269	165	247	388	405	48	70	193	216	378	254	327
Time Inc.	91	142	92	124	223	174	208	216	62	169	48	285	105	57
Times Mirror	154	136	76	110	92	134	145	60	77	86	138	279	198	271
Tribune	218	189	180	141	28	188	198	209	289	—	—	—	189	293
Washington Post	323	342	184	161	115	327	424	65	33	28	18	202	141	88
RUBBER, PLASTIC PRODUCTS														
Armstrong Rubber	411	426	369	262	226	416	435	294	264	118	133	342	227	156
Cooper Tire & Rubber	472	478	359	206	209	451	452	193	124	60	40	447	352	212

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								sales	**stock-holders' equity**		**10-yr. avg.**	**1983**		
Dayco	371	396	418	290	30	452	312	411	401	372	315	67	407	340
Dorsey	482	488	402	341	—	480	430	353	211	93	65	435	444	267
Firestone Tire & Rubber	95	119	128	326	2	105	52	321	300	346	311	277	409	417
General Tire & Rubber	168	171	185	220	21	162	119	301	343	328	137	158	354	419
Goodrich (B.F.)	125	130	371	210	—	137	135	413	411	380	267	413	188	185
Goodyear Tire & Rubber	32	44	49	121	193	42	13	295	260	293	236	443	404	341
Rubbermaid	487	462	283	81	120	407	473	56	69	84	323	211	192	141
Uniroyal	180	200	187	257	31	201	183	279	266	280	294	139	241	228
Walter (Jim)	181	128	179	287	5	193	194	262	281	275	222	407	88	199
SHIPBUILDING, RAILROAD AND TRANSPORTATION EQUIPMENT														
ACF Industries	416	231	427	489	391	304	373	425	422	385	342	91	69	323
Allied	29	35	145	5	381	46	15	402	414	387	378	30	278	273
American Standard	170	190	199	272	56	220	103	322	252	200	64	362	425	443
Coachmen Industries	463	495	340	2	16	481	451	182	8	5	1	9	479	197
FMC	110	117	93	323	220	94	129	185	220	189	201	126	176	168
Fleetwood Enterprises	329	466	312	11	24	435	332	264	65	145	24	232	462	233
Mack Trucks	259	263	450	398	—	239	259	—	—	—	—	—	223	236
Ogden	187	253	221	447	305	309	75	329	141	241	148	337	489	492
Todd Shipyards	345	439	311	153	293	460	281	242	18	1	139	394	465	377
SOAPS														
Avon Products	131	140	97	324	323	118	100	142	171	333	447	405	318	324
Chesebrough-Pond's	206	232	113	254	272	205	172	69	49	117	381	449	363	335
Clorox	314	334	190	231	84	325	413	82	46	182	270	357	140	93
Colgate-Palmolive	72	123	78	333	280	101	80	225	144	223	412	327	299	171
Economics Laboratory	384	425	446	319	—	414	387	—	—	—	429	328	347	227
Int'l Flavors & Fragrances	470	386	182	267	242	315	469	6	48	144	440	400	107	145
Lever Brothers	223	350	386	85	—	384	431	403	358	—	24	—	139	38
Procter & Gamble	22	34	17	255	216	27	50	87	57	122	384	410	96	65
Revlon	159	147	127	303	281	170	128	194	226	240	401	331	240	322
TEXTILES, VINYL FLOORING														
Armstrong World Industries	240	267	196	125	25	212	190	206	259	299	364	326	397	367
Burlington Industries	133	149	157	251	62	120	65	312	335	323	284	222	432	451
Collins & Aikman	378	418	343	288	146	403	322	271	225	249	78	36	428	348
Fieldcrest Mills	435	446	383	126	86	426	279	331	299	259	161	203	472	477
Lowenstein (M.)	412	436	349	167	90	417	301	243	212	191	151	115	449	442
Riegel Textile	498	468	411	234	298	448	345	371	418	330	122	283	460	474
Springs Industries	320	335	276	281	315	280	207	222	292	222	123	391	455	476
Stevens (J.P.)	186	234	368	213	318	232	112	400	400	363	233	421	459	457
United Merchants & Mfrs.	464	434	434	462	—	438	327	—	—	—	439	50	434	464
West Point-Pepperell	262	306	224	175	154	279	176	210	201	134	96	169	457	453
TOBACCO														
American Brands	79	71	42	151	270	64	41	46	71	131	109	181	324	436
Philip Morris	35	27	15	249	189	30	47	39	29	42	277	271	85	119

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Oak Industries	492
Occidental Petroleum	14
Ogden	187
Olin	185
Outboard Marine	344
Owens-Corning Fiberglas	142
Owens-Illinois	115
Oxford Industries	450
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PACCAR	242
PPG Industries	103
Pabst Brewing	376
Pacific Resources	225
Palm Beach	467
Parker Hannifin	289
Peabody International	481
Penn Central	151
Pennwalt	301
Pennzoil	163
PepsiCo	44
Perkin-Elmer	291
Pfizer	99
Phelps Dodge	300
Philip Morris	35
Phillips Petroleum	16
Phillips-Van Heusen	473
Pillsbury	102
Pitney Bowes	211
Pittway	491
Polaroid	256
Potlatch	317
Prentice-Hall	477
Prime Computer	451
Procter & Gamble	22
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Quaker Oats	146
Quaker State Oil Refining	319
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ROLM	454
Ralston Purina	71
Raychem	413
Raytheon	59
Reichhold Chemicals	362
Republic Steel	145
Revere Copper & Brass	452
Revlon	159
Rexnord	342
Reynolds (R.J.) Industries	23
Reynolds Metals	118
Richardson-Vicks	276
Riegel Textile	498
Robertson (H.H.)	436
Robins (A.H.)	429
Rockwell International	43
Rohm & Haas	189
Rohr Industries	425
Roper	462
Rorer Group	466
Royal Crown Companies	459
Rubbermaid	487
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SCM	193
St. Regis	141
Sanders Associates	415
Savannah Foods & Industries	461
Schering-Plough	194
Scott & Fetzer	397
Scott Paper	156
Scovill	366
Seagram (Joseph E.) & Sons	233
Sealed Power	494
Searle (G.D.)	296
Shaklee	441
Shell Oil	13
Sheller-Globe	405
Sherwin-Williams	184
Signal Companies	54
Singer	155
Smith (A.O.)	330
Smith International	375
Smithfield Foods	422
SmithKline Beckman	126
Snap-on Tools	474
Sonoco Products	383
Southwest Forest Industries	380
Sperry	66
Springs Industries	320
Square D	269
Squibb	195
Staley (A.E.) Manufacturing	207
Standard Oil (Indiana)	8
Standard Oil (Ohio)	25
Standard Oil of California	9
Stanley Works	298
Stauffer Chemical	249
Sterling Drug	188
Stevens (J.P.)	186
Stokely-Van Camp	444
Stone Container	391
Storage Technology	322
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Sun Chemical	364
Sun-Diamond Growers of California	447
Sundstrand	316
Superior Oil	196
Swift Independent	152
Sybron	404
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TRW	63
Tandem Computers	500
Tecumseh Products	334
Tektronix	263
Teledyne	135
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Texas Instruments	77
Textron	134
Time Inc.	91
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Todd Shipyards	345
Tosco	153
Tracor	495
Trane	284
Tribune	218
Trinity Industries	465
Tyco Laboratories	419
Tyler	306
Tyson Foods	407
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Union Camp	204
Union Carbide	37
Union Pacific	40
Uniroyal	180
United Brands	109
United Merchants & Manufacturers	464
U.S. Gypsum	215
U.S. Industries	283
U.S. Steel	15
United Technologies	18
Universal Foods	448
Unocal	31
Upjohn	182
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VF	280
Varian Associates	358
Vulcan Materials	339
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Walter (Jim)	181
Wang Laboratories	227
Warnaco	456
Warner Communications	114
Warner-Lambert	128
Washington Post	323
West Point-Pepperell	262
Westinghouse Electric	34
Westmoreland Coal	437
Westvaco	232
Weyerhaeuser	70
Wheeling-Pittsburgh Steel	352
Whirlpool	147
White Consolidated Industries	178
Willamette Industries	287
Williams Companies	172
Wilson Foods	171
Wisconsin Dairies Cooperative	480
Witco Chemical	245
Worthington Industries	475
Wrigley (Wm. Jr.)	414
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NOTES TO THE FORTUNE DIRECTORY

SALES

All companies on the list must have derived more than 50% of their sales from manufacturing and/or mining. Sales include rental and other revenues but exclude dividends, interest, and other non-operating revenues. Sales of subsidiaries are included if they are consolidated. Sales from discontinued operations are included if these figures are published. If the sales are at least 10% higher for this reason, there is a symbol (¶) next to the sales figure. All figures are for the year ending December 31, 1983, unless otherwise noted. Sales figures do not include excise taxes collected by the manufacturer, and so the figures for some corporations—most of which sell gasoline, liquor, or tobacco—may be lower than those published by the corporations themselves. If they are at least 5% lower for this reason, there is an asterisk (*) next to the sales figures.

ASSETS

Assets are those shown at the company's fiscal year-end.

NET INCOME

Net income is shown after taxes and after extraordinary credits or charges if any are shown on the income statement. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the net income shown, a double dagger (‡) an extraordinary charge of at least 10%. Figures in parentheses indicate a loss.

STOCKHOLDERS' EQUITY

Stockholders' equity is the sum of capital stock, surplus, and retained earnings at the company's year-end. Redeemable preferred stock is excluded if its redemption is either mandatory or outside the control of the company, except in the case of cooperatives. For purposes of calculating "net income as percent of stockholders' equity," any dividends paid on redeemable preferred stock, if that stock's redemption is either mandatory or outside the control of the company, have been subtracted from the net income figure.

EMPLOYEES

The figure shown is a year-end total except when it is followed by a dagger (†), in which case it is an average for the year.

EARNINGS PER SHARE

For all companies the figures shown are the primary earnings per share that appear on the company's income statement. These figures are based on a weighted average of the number of common shares and common stock equivalents outstanding during the year. Common stock equivalents generally include (a) convertible securities whose cash yield is less than two-thirds of the prime rate at the time the securities were issued and (b) options and warrants if the effect of their inclusion in the computation would reduce the primary earnings per share. Per-share earnings for 1982 and 1983 are adjusted for stock splits and stock dividends. They are not restated for mergers, acquisitions, or accounting changes made after 1973. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the net income shown, a double dagger (‡) an extraordinary charge of at least 10%. Results are listed as not available (N.A.) if the companies are cooperatives, joint ventures, or wholly owned subsidiaries of other companies, or if the figures were not published in 1973. The growth rate is the average annual growth, compounded. No growth rate is given if the company had a loss in either 1973 or 1983.

TOTAL RETURN TO INVESTORS

Total return to investors includes both price appreciation and dividend yield to an investor in the company's stock. The figures shown assume sales at the end of 1983 of stock owned at the end of 1973 and 1982. It has been assumed that any proceeds from cash dividends, the sale of rights and warrant offerings, and stock received in spinoffs were reinvested at the end of the year in which they were received. Returns are adjusted for stock splits, stock dividends, recapitalizations, and corporate reorganizations as they occur; however, no effort has been made to reflect the cost of brokerage commissions or of taxes. Results are listed as not available (N.A.) if shares are not publicly traded or are traded on only a limited basis. If companies have more than one class of shares outstanding, only the more widely held and actively traded has been considered.

Total return percentages shown are the returns received by the hypothetical investor described above. The ten-year figures are annual averages, compounded. If corporations were substantially reorganized—e.g., because of mergers—the predecessor companies used in calculating total return are the same as those cited in the footnotes to the earnings-per-share figures.

INDUSTRY CODE

Industry code numbers used in the directory indicate which industry represents the greatest volume of industrial sales for each company. The numbers refer to the industry groups below, which are based on categories established by the U.S. Office of Management and Budget and issued by the Federal Statistical Policy and Standards Office. They are the same industry groups as those shown in the tables beginning on page 296. The median figures in the tables refer only to results of companies in the 500; no attempt has been made to calculate medians in groups with fewer than four companies.

Mining, crude-oil production	10
Food	20
Tobacco	21
Textiles, vinyl flooring	22
Apparel	23
Furniture	25
Paper, fiber, and wood products	26
Publishing, printing	27
Chemicals	28
Petroleum refining	29
Rubber, plastic products	30
Leather	31
Glass, concrete, abrasives, gypsum	32
Metal manufacturing	33
Metal products	34
Electronics, appliances	36
Shipbuilding, railroad and transportation equipment	37
Measuring, scientific, photographic equipment	38
Motor vehicles	40
Aerospace	41
Pharmaceuticals	42
Soaps, cosmetics	43
Office equipment (includes computers)	44
Industrial and farm equipment	45
Jewelry, silverware	46
Musical instruments, toys, sporting goods	47
Beverages	49

Most of the figures in this FORTUNE 500 Directory were prepared by Joan Campo and Sarah Smith, who are responsible for the columns reporting on companies' sales, assets, net income, stockholders' equity, and the industry code numbers. Figures on earnings per share and total return to investors were prepared by Claudine Knight.